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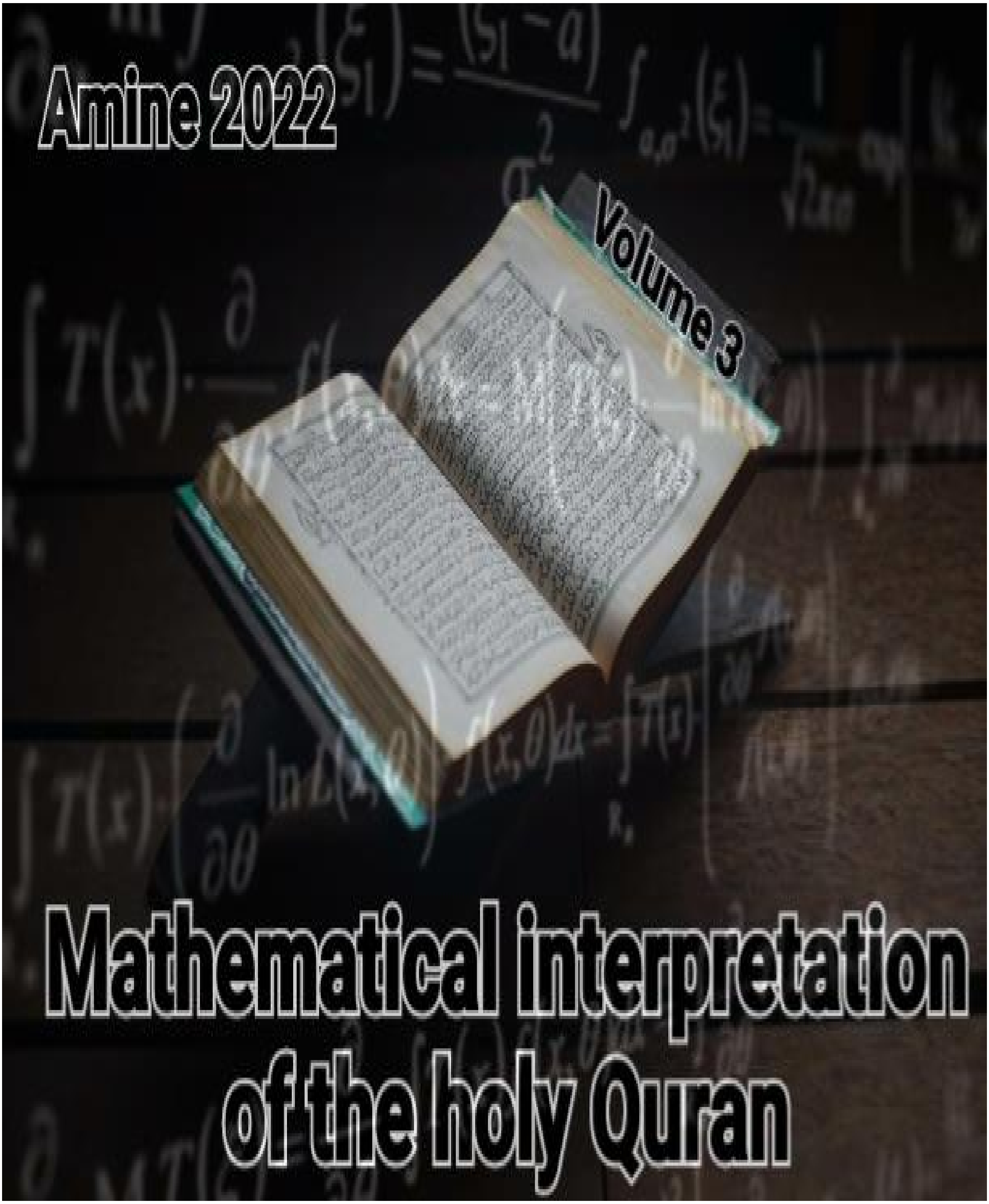


## The preface

This book «Mathematical interpretation of the holy Quran_Volume 3» is the continuation of the volume 1 and volume 2 released in 2020. Anyone who is serious about learning the scientific aspects of the amazing book «Quran», has to read all my three books because they form together a whole series and this series is actually a link in a larger chain of Quran interpretation books written by thousands of islamic scholars. I would like to name my books «The Trio-logy of mathematical interpretation of the holy Quran».

The book in your hands now either on your cell phone or on your tablet is a good company for any personality that believes religion is a science and not an oxymoron. This book will prove to you that religion, deeply studied, is never a true myth but is a true science. It's true that oxymorons speeches are used for a variety of purposes, sometimes they're used to create a little bit of drama for the reader; sometimes they're used to make a person stop and think, whether that's to laugh or to wonder; but my purpose of the book is to make you stop and think by uncovering the truth that religion is a science and could be the source of all branches of science.

Surah Al-Alaq in verses 1-5 recall us that religion is the mother of science:

اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ(1)خَلَقَ الإِنسَانَ مِنْ عَلَقٍ(2)
اقْرَأْ وَرَبُّكَ الأَكْرَمُ(3)الَّذِي عَلَّمَ بِالْقَلَمِ(4)عَلَّمَ الإِنسَانَ مَا لَمْ يَعْلَمْ(5).

1-"Recite in the name of your Lord who created,
2-"Created man from a clinging substance,
3-"Recite, and your Lord is the most Generous,
4-"Who taught by the pen,
5-"Taught man that which he knew not."

The notion that science and religion are inherently at war with one another is an idea that emerged because of the religious unseen «الغيب».

When historians of science and religion write about the “conflict thesis,” what are they talking about? Historians usually trace the origins of the conflict thesis– the notion that science and religion are fundamentally and irrevocably at “war”– to the late nineteenth century, specifically among Anglo-American writers. For instance, many scholars point to the scientific naturalists, a Victorian coterie made up of biologist Thomas H. Huxley (1828-1895), physicist John Tyndall (1820-1893), and evolutionary philosopher Herbert Spencer (1820-1903), among others, who supposedly employed conflict thesis in their attempt to professionalize and secularize the sciences. More specifically, historians look to John William Draper (1811-1882) History of the Conflict between Religion and Science (1874) and Andrew Dickson White’s (1832-1918) A

History of the Warfare of Science with Theology in Christendom (1896) as central historical narratives promulgating the belief that science and religion have been and always will be at odds.

There is a great deal of truth in these accusations. Indeed, Huxley once declared that "extinguished theologians lie about the cradle of every science as the strangled snakes beside that of Hercules." He believed that history demonstrated that "whenever science and orthodoxy have been fairly opposed, the latter has been forced to retire from the lists, bleeding and crushed if not annihilated; scotched, if not slain." The historical record proved, he asserted, that as natural knowledge increased, belief in the supernatural decreased. According to Huxley, no one should "imagine he is, or can be, both a true son of the Church and a loyal soldier of science."

But the story is a bit more complicated, and we are only now beginning to recognize that many of the accused did not, in fact, envision a conflict between science and religion. The reasons why scholars have incorrectly located the origins of the conflict thesis is itself a complicated story, but here it is enough to make a few observations. First, we must appreciate the wider religious context in which such historical narratives appeared. Advances in the natural and historical sciences, whether intentional or not, seemed to many a direct assault on orthodox Christian belief. Debates about the character of religion raged both inside and outside the church during the nineteenth century, and out of these debates emerged new ways of thinking about God, the nature of Christianity, and the historical Jesus peace upon him. In short, the nineteenth century witnessed an evolution of Christian expression born out of this process.

Secondly, while this new expression of Christianity was deeply contested, many men and women in the nineteenth century believed that the reconciliation of science and religion depended on it. Significantly, those who promoted a more diffusive version Christianity at the end of the century turned the term "theology" into a pejorative. By contrasting the idea of a free, progressive scientific inquiry against the authoritative, reactionary methods of theology, many intellectuals imagined dogma as the obstacle of modern thought, not faith. Thus "conflict" occurred, they believed, not between scientific truth and religious truth, but between contesting theological traditions.

The scientific naturalists Huxley, Tyndall, Spencer, and even Draper and White, all made just such a distinction between theology and religion. What enabled them to make such distinctions were the changes in religious thought that occurred during the century. Draper, for example, argued in his History of the Intellectual Development of Europe, which was published in 1863, that Christianity had been "paganized" under Emperor Constantine. Interestingly, he believed that early Christianity was a gift of God whereas ecclesiastical organizations were the product of human invention. By the fourteenth century, he complained, "God had altogether disappeared."

With the paganization of Christianity, Draper argued, came what he called the “tyranny of theology over thought.” He declared that those “who had known what religion was in the apostolic days, might look with boundless surprise on what was now ingrafted upon it, and was passing under its name.” Even his notorious History of the Conflict, under closer inspection, continues to make such distinctions, as when he argued that he would only consider the “orthodox” or “extremist” position, and not the moderate ones.

White shared much of the same sentiments. By separating religion from theology, White could denounce that the “most mistaken of all mistaken ideas” was the “conviction that religion and science are enemies.” While science has conquered “dogmatic theology,” he argued, it will “go hand in hand with Religion.” For White, science was an aid to religion, encouraging its “steady evolution” into more purified forms.

White also believed that Jesus peace upon him had preached a pure and undefiled religion, and that the present conflict “was the fault of that short-sighted linking of theological dogmas to scriptural text which, in utter defiance of the words and works of the Blessed Founder of Christianity, narrow-minded, loud-voiced men are prone to substitute for religion.” In his Autobiography, White concluded that history had demonstrated that “while the simple religion of the Blessed Founder of Christianity has gone on through the ages producing the noblest growths of faith, hope, and charity, many of the beliefs insisted upon within the church as necessary to salvation were survivals of primeval superstition, or evolved in obedience to pagan environment or Jewish habits of through or Greek metaphysics or medieval interpolations in our sacred books.”

In short, Draper, White, and the scientific naturalists did not see the conflict as one between science and religion but between “dogmatic theology and science.” More precisely still, the conflict was between contending theological traditions. They believed that theology was not only in conflict with science but also with religion.

Many Muslims agree that doing science is an act of religious merit, even a collective duty of the Muslim community. According to M. Shamsher Ali, there are around 750 verses in the Quran dealing with natural phenomena. According to the Encyclopedia of the Quran, many verses of the Quran ask mankind to study nature, and this has been interpreted to mean an encouragement for scientific inquiry, and the investigation of the truth. Some include, “Travel throughout the earth and see how He brings life into being” (verse 20 of surah Al-Ankabut), “Behold in the creation of the heavens and the earth, and the alternation of night and day, there are indeed signs for men of understanding ...” (verse 190 of surah Ali-Imraan).

Historical Islamic scientists like Al-Biruni and Al-Battani derived their inspiration from verses of the Quran. Mohammad Hashim Kamali has stated that "scientific observation, experimental knowledge and rationality" are the primary tools with which humanity can achieve the goals laid out for it in the Quran. Ziauddin Sardar argues that Muslims developed the foundations of modern science, by "highlighting the repeated calls of the Quran to observe and reflect upon natural phenomena".

The physicist Abdus Salam believed there is no contradiction between Islam and the discoveries that science allows humanity to make about nature and the universe; and that the Quran and the Islamic spirit of study and rational reflection was the source of extraordinary civilizational development. Salam highlights, in particular, the work of Ibn al-Haytham and Al-Biruni as the pioneers of empiricism who introduced the experimental approach, breaking away from Aristotle's influence, and thus giving birth to modern science. Salam differentiated between metaphysics and physics, and advised against empirically probing certain matters on which "physics is silent and will remain so," such as the doctrine of "creation from nothing" which in Salam's view is outside the limits of science and thus "gives way" to religious considerations.

Islam has its own world view system including beliefs about "ultimate reality, epistemology, ontology, ethics, purpose, etc." according to Mehdi Golshani.

Toshihiko Izutsu writes that in Islam, nature is not seen as something separate but as an integral part of a holistic outlook on God, humanity, the world and the cosmos. These links imply a sacred aspect to Muslims' pursuit of scientific knowledge, as nature itself is viewed in the Quran as a compilation of signs pointing to the Divine. It was with this understanding that the pursuit of science, especially prior to the colonization of the Muslim world, was respected in Islamic civilizations.

In my view what could cause a difficulty between science and religion is the concept of "Al-Ghaib". The Al-Ghaib is an Arabic expression used to convey that something is concealed (unseen). It is an important concept in Islam, encompassing not only the realm of the divine, including angels, paradise, and hell, but also future events, which only God know. In the Quran it has 6 forms and 3 meanings. But it can also be used in a general sense to refer to something that is known to some but concealed from others.

In the Islamic context, al-Ghaib refers to transcendental or divine secrets. It is mentioned in sixty different places in the Quran, in six different forms. It has three primary meanings:

1. Absent – “That is so al-'Azeez will know that I did not betray him in [his] absence and that Allah does not guide the plan of betrayers.” (surah yusuf verse 52);

ذَٰلِكَ لِيَعْلَمَ أَنِّي لَمْ أَخُنْهُ بِالْغَيْبِ وَأَنَّ اللَّهَ لَا يَهْدِي كَيْدَ الْخَائِنِينَ (52)

2. The Unknown or Hidden – "[Allah is] Knower of the unseen and the witnessed, the Grand, the Exalted." (surah Ar-ra'd verse 9);

عَالِمُ الْغَيْبِ وَالشَّهَادَةِ الْكَبِيرُ الْمُتَعَالِ (9)

3. The Future – "Say, "I hold not for myself [the power of] benefit or harm, except what Allah has willed. And if I knew the unseen, I could have acquired much wealth, and no harm would have touched me. I am not except a warner and a bringer of good tidings to a people who believe." " (surah Al-A'raaf verse 188) .

قُل لَّا أَمْلِكُ لِنَفْسِي نَفْعًا وَلَا ضَرًّا إِلَّا مَا شَاءَ اللَّهُ ۚ وَلَوْ كُنتُ أَعْلَمُ الْغَيْبَ لَاسْتَكْثَرْتُ مِنَ الْخَيْرِ وَمَا مَسَّنِيَ السُّوءُ ۚ إِنْ أَنَا إِلَّا نَذِيرٌ وَبَشِيرٌ لِّقَوْمٍ يُؤْمِنُونَ (188)

There are two types of Ghaib:

1. Al-Ghaib al-Mutlaq (الغيب المطلق) - Absolute Ghaib refers to all knowledge that is unseen or concealed and is only known to Allah. As stated in the Quran: "And with Him are the keys of the Ghayb (all that is hidden), none knows them but He…" (surah Al-An'am verse 59).

وَعِندَهُ مَفَاتِحُ الْغَيْبِ لَا يَعْلَمُهَا إِلَّا هُوَ ۚ وَيَعْلَمُ مَا فِي الْبَرِّ وَالْبَحْرِ ۚ وَمَا تَسْقُطُ مِن وَرَقَةٍ إِلَّا يَعْلَمُهَا وَلَا حَبَّةٍ فِي ظُلُمَاتِ الْأَرْضِ وَلَا رَطْبٍ وَلَا يَابِسٍ إِلَّا فِي كِتَابٍ مُّبِينٍ (59)

Examples of this form of Ghaib are illustrated in the narrations of the prophet Muhammad peace upon him : It is narrated that Abdullah bin `Umar said that the Messenger of Allah said: «The Keys of the Ghaib (unseen knowledge) are five, nobody knows them but Allah. Nobody knows what will happen tomorrow except Allah; nobody knows what is in the womb except Allah; nobody knows when it will rain except Allah; no soul knows at what place he will die except Allah; and nobody knows when the Final Hour will begin except Allah.»

«مفاتيحُ الغيبِ خَمْسٌ لا يعلَمُها إلَّا اللهُ : لا يعلَمُ ما تغيضُ الأرحامَ أحَدٌ إلَّا اللهُ ولا ما في غَدٍ إلَّا اللهُ ولا يعلَمُ متى يأتي المطَرُ إلَّا اللهُ ولا تدري نفسٌ بأيِّ أرضٍ تموتُ ولا يعلَمُ متى تقومُ السَّاعةُ أحَدٌ إلَّا اللهُ

الراوي : عبدالله بن عمر | المحدث : ابن حبان | المصدر : صحيح ابن حبان

الصفحة أو الرقم: 71 | خلاصة حكم المحدث : أخرجه في صحيحه

2. Al-Ghaib al-Nisbi (الغيب النسبي) - Relative Ghaib is proportionate to an individual and their situation; hence it is apparent to some while hidden from others. An example to illustrate this notion is that of a class in which the students can see the lecturer, hear the content of the lecture, and the conversations that take place in the classroom, while those outside are unaware of the occurrences in the classroom.

For a long time scholars who invested in Quran interpretation have classified the verses that belong to the realm of the Al-Ghaib. The "Muqattaʿat" are some of them and are the most amazing one that have been too uncomprehended for 14 centuries.

I consider these "Muqattaʿat" as a relative-Ghaib. With this book I tried by myself with all the modest knowledge that I have to uncover their meanings. You will see through this book that my mathematical and physical examination is very logical and can be the real truth that God wanted us to know after all these centuries of ignorance about these letters combinations.

I wrote this book for God's sake, not looking for financial reward or notoriety, and publish it free of charge and the writer's rights reserved. This is my philosophy about science that has to be free for humans as many old islamic scholars were donating their knowledge free of charge in the medieval time.

God's Messenger muhammad peace upon him said, allowed muslims to have financial reward by teaching science when he said "You are most entitled to take wages for doing a Ruqya with Allah's Book."

«إِنَّ أَحَقَّ مَا أَخَذْتُمْ عَلَيْهِ أَجْرًا كِتَابُ اللهِ»

But I wanted my research to be free to make it accessible to the most possible of readers. I offer my effort as a gift to muslims in the month of Ramadan 2021 for the night of Qadr celebration hoping for acceptance from God.

## The introduction

"Muqattaʿat" is arabic word to designate the mysterious letters (muqaṭṭaʿāt, Arabic: حُرُوف مُقَطَّعَات ḥurūf muqaṭṭaʿāt, "disjoined letters" or "disconnected letters") are combinations of between one and five Arabic letters figuring at the beginning of 29 out of the 114 chapters (surahs) of the Quran just after the Bismillāh Islamic phrase. The letters are also known as fawātiḥ (فَوَاتِح) or "openers" as they form the opening verse of their respective surahs.

Four surahs are named for their muqaṭṭaʿāt: Ṭā-Hā, Yā-Sīn, Ṣād and Qāf .

The original significance of the letters is unknown. Tafsir (exegesis) has interpreted them as abbreviations for either names or qualities of God or for the names or content of the respective surahs.

Muqatta'at are in Surahs 2–3, 7, 10–15, 19–20, 26–32, 36, 38, 40–46, 50 and 68. The letters are written together like a word, but each letter is pronounced separately. The inventory is :

**Muqatta'āt inventory**

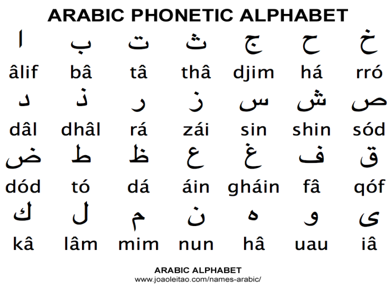
| Order | Surah | Muqatta'āt |
|---|---|---|
| 1 | Al-Baqarah | Alif Lām Mīm الم |
| 2 | Al-imraan | 'Alif Lām Mīm الم |
| 3 | Al-Araaf | 'Alif Lām Mīm Ṣād المص |
| 4 | Yunus | 'Alif Lam Ra الر |
| 5 | Hud | 'Alif Lām Rā الر |
| 6 | Yusuf | 'Alif Lām Rā الر |
| 7 | Ar-raad | 'Alif Lām Mīm Rā المر |
| 8 | Ibrahim | 'Alif Lām Rā الر |
| 9 | Al-Hijr | 'Alif Lām Rā الر |
| 10 | Maryam | Kaf Ha Ya 'Ain Ṣad كهيعص |
| 11 | Taha | Ṭā Hā طه |
| 12 | ash-Shu'ārā' | Ṭā Sīn Mīm طسم |
| 13 | An-Naml | Ṭā' Sīn طس |
| 14 | Al-Qasas | Ṭā Sīn Mīm طسم |
| 15 | Al-Ankabut | 'Alif Lām Mīm الم |
| 16 | Ar-Rum | 'Alif Lām Mīm الم |
| 17 | Luqman | 'Alif Lām Mīm الم |
| 18 | As-Sajdah | 'Alif Lām Mīm الم |
| 19 | Yā' Sīn | Yā Sīn يس |
| 20 | Sód | Ṣód ص |
| 21 | Ghafir | Ḥā Mīm حم |
| 22 | Fussilat | Ḥā Mīm حم |
| 23 | Ash-Shura | Ḥā Mīm; 'Ain Sīn Qāf حم عسق |
| 24 | Az-Zukhuf | Ḥā Mīm حم |
| 25 | Al-Dukhan | Ḥā Mīm حم |
| 26 | Al-Jathiya | Ḥā Mīm حم |
| 27 | Al-Ahqaf | Ḥā Mīm حم |
| 28 | Qāf | Qāf ق |
| 29 | Al-Qalam | Nūn ن |

Some surahs have the same openers, so if we don't count the repetition we will have the following 14 combinations in this table classified with their equations/functions and meaning that we will be exploring together in this book.

| Letters combination | Equation or function | The meaning |
|---|---|---|
| ʾAlif-Lām-Mīm (1,23,24)<br>22 + 1 = 23 | 1) $A = A_0 e^{(0.0138\times x)} + \frac{(3x) - 22}{100}$<br>2) $A = A_0 e^{(-0.0138\times x)} - \frac{(3x) - 22}{100}$ | Exponential function for:<br>1) Usury growth<br>2) Population decay<br>For Geedon development |
| ʾAlif-Lām-Mīm-Ṣód (1,23,24,14)<br>22 + 1 - 10 = 13 | $A = A_0 e^{(1.38\times x)} + (3\times x) - 22.$ | Exponential function for zakat growth for Geedon development |
| ʾAlif Lām Rā (1,23,10)<br>22 - 13 = 9 | $A = A_0 e^{(1.38\times x)} + (3x) - 22$ | Exponential function for provision growth<br>For Geedon development |
| ʾAlif-Lām-Mīm-Rā (1,23,24,10)<br>22 + 1 - 14 = 9 | $A = A_0 e^{(1.38\times x)} + (3\times x) - 22.$ | Exponential function for donation growth for Geedon development |
| Kāf Hā Yā ʿAin Ṣód<br>+4 +2 -10 -4 + 8 = 0 | $2x^2 + 1x + (-10) = 0$<br>$ax^2 + bx + (c) = 0$ | GOLDEN RATIO Φ of human Geedon creation |
| Ṭā Hā (16,26)<br>+10 | $x^1 > \frac{x}{10}$ is $[\frac{x}{10}, x]$ | Inequation of human being life length on earth for Geedon: End of world |
| Ṭāʾ Sīn (16,12)<br>-4 | $x^2 = -4.$ | Geedon-photon interaction wave amplitude of moses's stick = snake |
| Ṭā Sīn Mīm (16,12,24)<br>-4 + 12 = 8 | $8 - 2i = z$ | Geedon-photon interaction wave amplitude of moses's stick = sea splitting |
| Yā Sīn ( 28,12)<br>-16 | $x^2 + x^2 + x^2 + x^2$ | Geedon-photon interaction wave amplitude of all human destruction |

| | | |
|---|---|---|
| Sód (14)<br>+14 | $\mathrm{Log}_{2i}(14) = ?$ | Geedon-photon interaction wave amplitude of precise population destruction |
| Ḥā Mīm (6,24)<br>+18 | $T_{(planet)} = T_0 e^{1.099 \times x} \times x$ | Exponential function for hell system temperature growth as spacetime for Geedon |
| Ḥā Mīm; ʿAin Sīn Qāf (6,24/18,12,21)<br>+18 / -6 + 9 = +18 / +3 | $T_{(planet)} = T_0 e^{1.099 \times x} \times x$ | Exponential function for hell system temperature growth as spacetime for Geedon |
| Qāf (21)<br>+21 | $\mathrm{Log}_{2i}(21) = ?$ | Geedon-photon interaction wave amplitude of resurrection |
| Nūn (25)<br>+25 | $\mathrm{Log}_{2i}(25) = ?$ | Geedon-Geedon interaction wave amplitude of the evil eye |

Each letters' combination can be converted to a numerical combination. The numerical combination I derived from the ordinal numbers of each letter in arabic alphabets. We know that arabic alphabets are 28 letters as in the following figure:

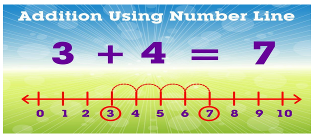



To form the equation, I will decrypt the arithmetic operations within these numerical combination , for example:

The letter combination «ʾAlif-Lām-Mīm» :

1. ʾAlif = Ordinal number 1 in arabic alphabets;
2. Lām = Ordinal number 23 in arabic alphabets;
3. Mīm = Ordinal number 24 in arabic alphabets.

So the letter combination «ʾAlif-Lām-Mīm» can be written as a numerical combination «1-23-24». An arithmetic operation will express the move between these numbers on the number line as this example in the figure:




- To move from 1 to 23, the arithmetic operation is $1 + 22 = 23$.
- To move from 23 to 24, the arithmetic operation is $23 + 1 = 24$.

We obtain the total moves $22 + 1 = 23$

This is actually a quadratic equation : $4^x + 3x + 1 = 23$. I will solve it later and graph it. Then find out the interpretation of it in the correspondent surah.

You may say that the conversion of the letters combination to numerical combination is completely nonsense because it looks like numerology that has no basic validation and science is sceptical about it. I can assure you that I am far from numerology because that concept of numerology is any belief in the divine or mystical relationship between a number and one or more coinciding events. It is also the study of the numerical value of the letters in words, names, and ideas. It is often associated with the paranormal, alongside astrology and similar divinatory arts.

Skeptics argue that numbers have no occult significance and cannot by themselves influence a person's life. Skeptics, therefore, regard numerology as a superstition and a pseudoscience that uses numbers to give the subject a veneer of scientific authority.

At least two studies have investigated numerological claims, both producing negative results: one in the UK in 1993, and one in 2012 in Israel. The UK experiment involved 96 people and found no correlation between the number seven and a self-reported psychic ability. The experiment in Israel involved a professional numerologist and 200 participants, and was designed to examine the validity of a numerological diagnosis of learning disabilities, like dyslexia and ADHD, and autism. The experiment was repeated twice and still produced negative results.

There are various numerology systems which assign numerical value to the letters of an alphabet. Examples include the Abjad numerals in Arabic, the Hebrew numerals, Armenian numerals, and Greek numerals. The practice within Jewish tradition of assigning mystical meaning to words

based on their numerical values, and on connections between words of equal value, is known as gematria.
A well-known example of Hebrew gematria is the word חי chai (lit. "alive"), which is composed of two letters that (using the assignments in the Mispar gadol add up to 18. This has made 18 a "lucky number" among the Jewish people. Donations of money in multiples of 18 are very popular.

It's true that I am going to convert each letter to its ordinal number in arabic alphabet but I am not going to give any mystical value to any number on the contrary I am going to convert these numbers to equations and functions and examine if those equations or functions have a mathematical or physical logical link with the verses. If there is a link it's going to be worth it to deepen that knowledge and develop the idea and if you think there is no link at all then you have the right to reject it. All I am going to ask you is just to continue reading the book until the end and you will be amazed like I was.

A brief introduction to equations may help the reader understand the concept before I use it and clarify for those who have modest mathematical knowledge the meaning of the equation before we plunge together in interpreting the verses.

Have you ever wondered how Algebra may be applied to solve real-life problems?

We regularly see people using Algebra in many parts of everyday life; for instance, it is utilized in our morning schedule each day to measure the time you will spend in the shower, making breakfast, or driving to work.

The absence of "X" or "Y" doesn't imply that algebra is not around us; algebra’s actual occurrences are uncountable. This exact and compact numerical language works wonderfully with practically all different subjects and everyday life.

Many calculus books grasp instances in real life where applications of algebra are needed and examples of applications of algebra in real life.

The universe is constantly in motion, stars, planets, and galaxies are constantly changing. Elements, particles and subatomic matter bodily matter are not static either. Before the invention of calculus, Mathematics was static. Calculus is a branch of math that calculates how matter, particles and heavenly bodies actually move. Calculus is used to calculate the rate of change in real-time.

It seems that for many people, "Calculus" is synonymous with "difficult." However, any teacher of Calculus will tell you that the reason that students are not successful in Calculus is not because of Calculus, it's because their algebra and trigonometry skills are weak. You see, Calculus is really just one additional step beyond algebra and trig. Calculus is algebra and trigonometry with limits and limits aren't really that hard once you figure them out. There is often only one step in the problem that actually involves calculus, the rest is simplifying using algebra and trigonometry. That's why it is crucial that you have a good background in those subjects to be successful in calculus and understand this book.

In mathematics, an equation is a statement that asserts the equality of two expressions, which are connected by the equals sign "=". The word equation and its cognates in other languages may have subtly different meanings; for example, in French an équation is defined as containing one or more variables, while in English, any equality is an equation.

Solving an equation containing variables consists of determining which values of the variables make the equality true. Variables are also called unknowns, and the values of the unknowns that satisfy the equality are called solutions of the equation. There are two kinds of equations: identities and conditional equations. An identity is true for all values of the variable. A conditional equation is only true for particular values of the variables.

An equation is written as two expressions, connected by an equals sign ("="). The expressions on the two sides of the equals sign are called the "left-hand side" and "right-hand side" of the equation.

The most common type of equation is an algebraic equation, in which the two sides are algebraic expressions. Each side of an algebraic equation will contain one or more terms. For example, the equation:

$$Ax + Bx + C = y$$

has left-hand side $Ax + Bx + C$, which has three terms, and right-hand side $y$, consisting of just one term. The unknowns are x and y, and the parameters are A, B, and C.

An equation is analogous to a scale into which weights are placed. When equal weights of something (e.g., grain) are placed into the two pans, the two weights cause the scale to be in balance and are said to be equal. If a quantity of grain is removed from one pan of the balance, an equal amount of grain must be removed from the other pan to keep the scale in balance. More generally, an equation remains in balance if the same operation is performed on its both sides.

In geometry, equations are used to describe geometric figures. As the equations that are considered, such as implicit equations or parametric equations, have infinitely many solutions, the objective is now different: instead of giving the solutions explicitly or counting them, which is impossible, one uses equations for studying properties of figures. This is the starting idea of algebraic geometry, an important area of mathematics.

Algebra studies two main families of equations: polynomial equations and, among them, the special case of linear equations. When there is only one variable, polynomial equations have the form P(x) = 0, where P is a polynomial, and linear equations have the form ax + b = 0, where a and b are parameters. To solve equations from either family, one uses algorithmic or geometric techniques that originate from linear algebra or mathematical analysis. Algebra also studies Diophantine equations where the coefficients and solutions are integers. The techniques used are different and come from number theory. These equations are difficult in general; one often searches just to find the existence or absence of a solution, and, if they exist, to count the number of solutions.

Differential equations are equations that involve one or more functions and their derivatives. They are solved by finding an expression for the function that does not involve derivatives. Differential equations are used to model processes that involve the rates of change of the variable, and are used in areas such as physics, chemistry, biology, and economics.

The "=" symbol, which appears in every equation, was invented in 1557 by Robert Recorde, who considered that nothing could be more equal than parallel straight lines with the same length.

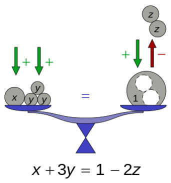



Illustration of a simple equation; x, y, z are real numbers,
analogous to weights. An equation is analogous to a weighing scale, balance, or seesaw.

Each side of the equation corresponds to one side of the balance. Different quantities can be placed on each side: if the weights on the two sides are equal, the scale balances, and in analogy, the equality that represents the balance is also balanced (if not, then the lack of balance corresponds to an inequality represented by an inequation).

In the illustration, x, y and z are all different quantities (in this case real numbers) represented as circular weights, and each of x, y, and z has a different weight. Addition corresponds to adding weight, while subtraction corresponds to removing weight from what is already there. When equality holds, the total weight on each side is the same.

There are five main types of algebraic equations, distinguished by the position of variables, the types of operators and functions used, and the behavior of their graphs. Each type of equation has a different expected input and produces an output with a different interpretation. The differences and similarities between the five types of algebraic equations and their uses demonstrate the variety and power of algebraic operations.

1. **Monomial/Polynomial Equations**

Monomials and polynomials are equations consisting of variable terms with whole number exponents. Polynomials are classified by the number of terms in the expression: Monomials have one term, binomials have two terms, trinomials have three terms. Any expression with more than one term is called a polynomial. Polynomials are also classified by degree, which is the number of the highest exponent in the expression. Polynomials with degrees one, two and three are called linear, quadratic and cubic polynomials, respectively. The equation $x^2 - x - 3$ is called a quadratic trinomial. Quadratic equations are commonly encountered in algebra I and II; their graph, known as a parabola, describes the arc traced by a projectile fired into the air.

**Monomial Equations**: The polynomial equation which has only one term is called a monomial equation. e.g.

$12x = 0$
$-2xy = 0$

**Binomial Equations**: The polynomial equation which has two terms is called a binomial equation. e.g.

$12x^2 + 4y^2 = 0$
$27x^2 – 19 = 0$

**Trinomial Equations**: The polynomial equation which has three terms is called a trinomial equation. e.g.
$10xy + 23y – 2x = 0$
$3x – 3y + 2xy = 0$

**Linear**

In linear equations, each term is either a constant or the product of a constant and a single variable. If there are two variables, the graph of the linear equation is a straight line.

General form of the linear equation with two variables is given below:

$y = mx + c, m \neq 0.$

Equation with one Variable: An equation who have only one variable, e.g.
$12x - 10 = 0$
$12x = 10$
Equation with two Variables: An equation who have two variables, e.g.
$12x + 10y - 10 = 0$
$12x + 23y = 20$
Equation with three Variables: An equation who have three variables, e.g.
$12x + 10y - 3z - 10 = 0$
$12x + 23y - 12z = 20$

**Quadratic Equation:**

It is the second degree equation in which one variable contains the variable with an exponent of 2. Its general form is

$ax^2 + bx + c = 0, a \neq 0$

Examples of Quadratic Equations:

$x^2 - 7x + 12 = 0$
$2x^2 - 5x - 12 = 0$

**Radical equations**

These are equations whose maximum exponent on the variable is ½ and have more than one term. Here the variable is lying inside a radical symbol usually in a square root. $\sqrt{x}+10=26$ is a radical equation.
cubic equation for degree three
quartic equation for degree four
quintic equation for degree five
sextic equation for degree six
septic equation for degree seven
octic equation for degree eight

## 2. Exponential Equations

Exponential equations are distinguished from polynomials in that they have variable terms in the exponents. An example of an exponential equation is $y = 3^{(x-4)} + 6$. Exponential functions are classified as exponential growth if the independent variable has a positive coefficient and exponential decay if it has a negative coefficient. Exponential growth equations are used to describe the spread of populations and diseases as well as financial concepts such as compound interest (the formula for compound interest is $Pe^{(rt)}$, where P is the principal, r is the interest rate and t is the amount of time). Exponential decay equations describe phenomena such as radioactive decay.

It is an equation that has variables in the place of exponents. This can be solved using the property: ax=ay=> x = y.

Examples of exponential equation

$x^a = 0$ Here “x” is base and “a” is exponent.
$10^x = 0$
$8^a = 64$

## 3. Logarithmic Equations

Logarithmic functions are the inverse of exponential functions. For the equation $y = 2^x$, the inverse function is $y = \log_2(x)$. The log base b of a number x is equal to the exponent that you have to raise b to to get the number x. For example, the $\log_2$ of 16 is 4 because 2 to the $4^{th}$ power ($2^4$) is 16. The transcendental number "e" is most commonly used as the logarithmic base; the logarithm base e is frequently called the natural logarithm. Logarithmic equations are used in many types of intensity scales, such as the Richter scale for earthquakes and the decibel scale for sound intensity. The decibel scale uses a log base 10, meaning an increase of one decibel corresponds to a tenfold increase in sound intensity.

## 4. Rational Equations

Rational equations are algebraic equations of the form p(x) / q(x), where p(x) and q(x) are both polynomials. An example of a rational equation is $(x - 4) / (x^2 - 5x + 4)$. Rational equations are notable for having asymptotes, which are values of y and x that the graph of the equation approaches but never reaches. A vertical asymptote of a rational equation is an x-value that the graph never reaches -- the y-value either goes to positive or negative infinity as the value of x approaches the asymptote. A horizontal asymptote is a y-value that the graph approaches as x goes to positive or negative infinity.

## 5. Trigonometric Equations

Trigonometric equations contain the trigonometric functions sin, cos, tan, sec, csc and cot. Trigonometric functions describe the ratio between two sides of a right triangle, taking the angle measure as the input or independent variable and the ratio as the output or dependent variable. For example, $y = \sin x$ describes the ratio of a right triangle's opposite side to its hypotenuse for an angle of measure x. Trigonometric functions are distinct in that they are periodic, meaning the graph repeats after a certain amount of time. The graph of a standard sine wave has a period of 360 degrees.

Now that you have an idea about my methodology you can start to read the first chapter. For those who want to deepen their knowledge about calculus and algebra can read the books mentioned in the bibliography of this book, it's not going to be difficult for a non mathematic student to understand and learn it.

# Content

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ʾAlif-Lām-Mīm-Ṣód ألمص
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«ʾAlif-Lām-Mīm-Rā» المر
Donation/الصدقة

**I- The equation «ʾAlif-Lām-Mīm-Ṣód» ألمص**

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ʾAlif Lām Rā الر
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Ṭā᾽ Sīn (طس)

Ṭā Sīn Mīm (طسم)

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Ṭā Hā (طه)

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Stage 1: Fresh - 0 to 3 days after death

Stage 2: Putrefaction - 4 to 10 days after death

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Stage 3: Black putrefaction - 10 to 20 days after death

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1- What is the amplitude of a quantum wave

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# Chapter I
# "Kaf, Ha, Iyá, Ayn, Sód" / "كهيعص"
# The Golden ratio human creation

## I- Arithmetic analysis

### 1- Arabic alphabets

The arabic alphabets that open the surah Maryam are 5.

Surah Maryam verses 1 to 11:

1- «**Kaf, Ha, Iyá, Ayn, Sód.**
2- [This is] a mention of the mercy of your Lord to His servant Zechariah.
3- When he called to his Lord a private supplication.
4- He said, "My Lord, indeed my bones have weakened, and my head has filled with white, and never have I been in my supplication to You, my Lord, unhappy.
5- And indeed, I fear the successors after me, and my wife has been barren, so give me from Yourself an heir.
6-Who will inherit me and inherit from the family of Jacob. And make him, my Lord, pleasing [to You]."
7- [He was told], "O Zechariah, indeed We give you good tidings of a boy whose name will be John. We have not assigned before to any [this] name."
8- He said, "My Lord, how will I have a boy when my wife has been barren and I have reached extreme old age?"
9- [An angel] said, "Thus [it will be]; your Lord says, 'It is easy for Me, for I created you before, while you were nothing.' "
10- [Zechariah] said, "My Lord, make for me a sign." He said, "Your sign is that you will not speak to the people for three nights, [being] sound."
11- So he came out to his people from the prayer chamber and signaled to them to exalt [ Allah ] in the morning and afternoon.»

**كهيعص** (1) ذِكْرُ رَحْمَتِ رَبِّكَ عَبْدَهُ زَكَرِيَّا (2) إِذْ نَادَىٰ رَبَّهُ نِدَاءً خَفِيًّا (3) قَالَ رَبِّ إِنِّي وَهَنَ الْعَظْمُ مِنِّي وَاشْتَعَلَ الرَّأْسُ شَيْبًا وَلَمْ أَكُن بِدُعَائِكَ رَبِّ شَقِيًّا (4) وَإِنِّي خِفْتُ الْمَوَالِيَ مِن وَرَائِي وَكَانَتِ امْرَأَتِي عَاقِرًا فَهَبْ لِي مِن لَّدُنكَ وَلِيًّا (5) يَرِثُنِي وَيَرِثُ مِنْ آلِ يَعْقُوبَ ۖ وَاجْعَلْهُ رَبِّ رَضِيًّا (6) يَا زَكَرِيَّا إِنَّا نُبَشِّرُكَ بِغُلَامٍ اسْمُهُ يَحْيَىٰ لَمْ نَجْعَل لَّهُ مِن قَبْلُ سَمِيًّا (7) قَالَ رَبِّ أَنَّىٰ يَكُونُ لِي غُلَامٌ وَكَانَتِ امْرَأَتِي عَاقِرًا وَقَدْ بَلَغْتُ مِنَ الْكِبَرِ عِتِيًّا (8) قَالَ كَذَٰلِكَ قَالَ رَبُّكَ هُوَ عَلَيَّ هَيِّنٌ وَقَدْ خَلَقْتُكَ مِن قَبْلُ وَلَمْ تَكُ شَيْئًا (9) قَالَ رَبِّ اجْعَل لِّي آيَةً ۚ قَالَ آيَتُكَ أَلَّا تُكَلِّمَ النَّاسَ ثَلَاثَ لَيَالٍ سَوِيًّا (10) فَخَرَجَ عَلَىٰ قَوْمِهِ مِنَ الْمِحْرَابِ فَأَوْحَىٰ إِلَيْهِمْ أَن سَبِّحُوا بُكْرَةً وَعَشِيًّا (11)

This strange opening of surah maryam that forms the verse number 1 intrigued many scholars to interpret the meaning of these 5 arabic letters but no one until now has given the final conclusive interpretation. All trials were acceptable but the mystery around these letters is still unsolved. I wanted to take part in the effort and give a possible mathematical interpretation that may help to solve the enigma. It is very important for the reader to notice that the central theme of this Surah is the **human creation** (creation of John and Jesus) and that God has no son in the trinity.

The total number of arabic alphabets is 28.

## 2 - Quadratic equation

### $2_A$ -The equation

The 5 alphabets that form the first verse of surah maryam are:

1. Kaf = Ordinal number 22;
2. Ha = Ordinal number 26;
3. Iyá = Ordinal number 28;
4. Ayn= Ordinal number 18 ;
5. Sód = Ordinal number 14.

Let's replace these letters by their respective ordinal numbers 22/26/28/18/14. Let's compute the moves from number to number:

- 22 +4 = 26
- 26 +2 = 28
- 28 -10 = 18
- 18 -4 = 14
- 14 +8 = 22

The result of the addition of all these moves totalise 0: +4 +2 -10 -4 + 8 = 0

We can transform this equation to a quadratic equation. The name Quadratic comes from "quad" meaning square, because the variable gets squared (like $x^2$). The quadratic equation formula is : $ax^2 + bx + c = 0$, Or we can write it : $y = ax^2 + bx + c$.

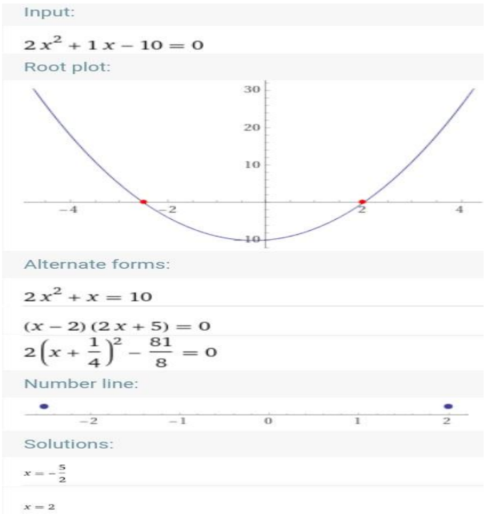
My equation simplified by removing (-4) and (+4) because their sum is 0 becomes : $\cancel{(+4)}$ +2 -10 $\cancel{(-4)}$ +8 = 0. I can rewrite it like this : 8 + 2 – 10 = 0 and then can be transformed to the quadratic form: $ax^2 + bx + c = 0$ with variables,
a = 2
b = 1

c = -10
x = 2 or -2 ( in my equation it is 2)

We get : $2x^2 + 1x + (-10) = 0$

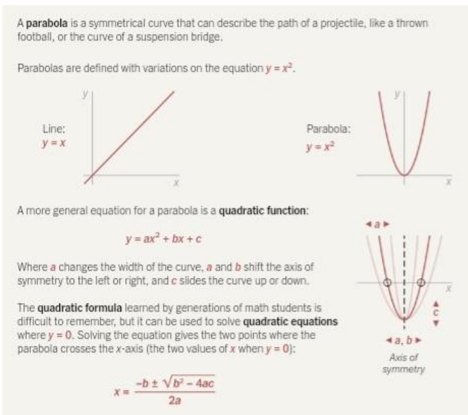
## $2_B$ -The equation graph

So we get x (roots) = 2 or -2.5 according to the quadratic equation solver in the figure below, so the relation between "y" and "x" is when "y" = 0, x = 2 or -2.5.




We can know that the 5 letters «**Kaf, Ha, Ya, 'Ayn, Sad**» (vertices) are located on this parabola.

## $2_C$ -The parabola



Example:

When you kick a soccer ball (or shoot an arrow, fire a missile or throw a stone) it arcs up into the air and comes down again ...following the path of a parabola!

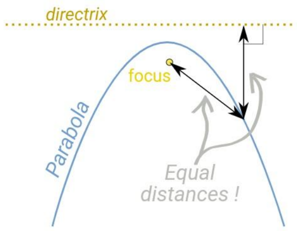
The definition of a parabola is a curve where any point is at an equal distance from:

- a fixed point (the focus ), and
- a fixed straight line (the directrix )

Get a piece of paper, draw a straight line on it, then make a big dot for the focus (not on the line!).

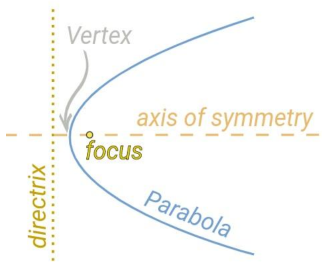
Now play around with some measurements until you have another dot that is exactly the same distance from the focus and the straight line.

Keep going until you have lots of little dots, then join the little dots and you will have a parabola!




Here are the important names:

- the directrix and focus (explained above)
- the axis of symmetry (goes through the focus, at right angles to the directrix)
- the vertex (where the parabola makes its sharpest turn) is halfway between the focus and directrix.

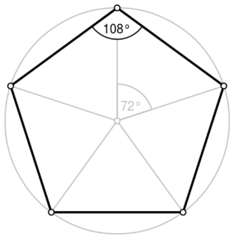


## II- Geometric analysis

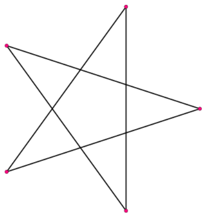
### 1 - The pentagon

The 5 letters can be interpreted as a 5 sided shape. In geometry, a pentagon (from the Greek πέντε pente and γωνία gonia, meaning five and angle ) is any five-sided polygon or 5-gon. The sum of the internal angles in a simple pentagon is 540°.

A pentagon may be simple (convex) or self-intersecting. A self-intersecting regular pentagon (or star pentagon) is called a pentagram.



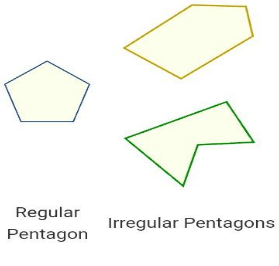

Simple : Regular pentagon
convex



self intersecting :
Regular pentagram

So which pentagon is meant by the 5 letters ? We know from the letter order that there is a move from the letter **Kaf (vertex)** to the letter **Ha (vertex)** then to the letter **Iyá (vertex)** then to the letter **Ayn (vertex)** then to the letter **Sód (vertex).** In both pentagone or pentagram the move is realisable. All interior angles are called salient angles because each one is < 180°.

1. regular pentagon and irregular pentagon: When all angles are equal and all sides are equal it is regular, otherwise it is irregular

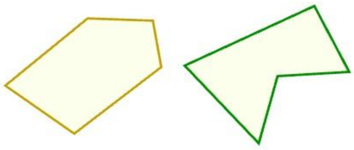



The sides of a pentagon can be interpreted as the different children and as children are different and their relationship child-child are with different inclination so we expect our pentagon to be more likely with different size in sides and angles.

Irregular pentagon = Irregular family

2. Concave or Convex: A convex pentagon has no angles pointing inwards. More precisely, no internal angles can be more than 180°. When any internal angle is greater than 180° it is concave. (Think: concave has a "cave" in it), A polygon is called concave (bend inwards), when at least one of its angles has more than 180°.

   Angle is the jointure between the children or the jointure between the parents (father and mother); which has to be salient < 180° because the members of the family are lines of angles and the inclination of one line to another has to be less than 180° . Flat angle is = 180° which is a flat relationship and no inclination between members of the family. An interior angle of a polygon that is greater than 180° is called: re-entrant angle which means repulsive relationship between children.



Convex Pentagon

Concave Pentagon

So our pentagon that may god have expressed in the 5 letters would be the convex pentagon = convex family.

The irregular convex pentagon is the family standard that has a perimeter limiting its interior relationship between diagonal (parent) and side (child) expressed by the verse 1 surah maryam by the 5 letters **Kaf, Ha, Iyá, Ayn, Sód.**

But this pentagon is not still defined by equation and graphing, is it the regular one or irregular ? Is it the convex or the concave ?

With the quadratic equation that describes the move from vertex to another we can try to find out the right pentagon.

$2x^2 + 1(x) + (-10) = y$

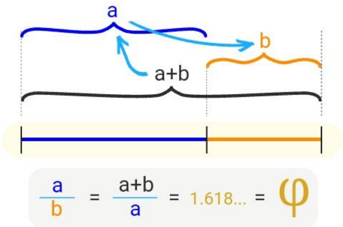
We have our equation parabola that the 5 vertices (kaf, Ha,Ya Ain, sad/كهيعص) are located on and we know that the shape has to be pentagon. So let's try to draw our pentagon 5 vertices on the parabola. I don't have mathematical tools applications to make the graph precisely but I will hand draw it with a compass. I will be linking 5 dots located on the parabola of the equation $2x^2+1(x)+(-10)=y$. Then measure the sides, angles to find out their ratio.

**2 -<u>The Golden ratio</u>**

In everyday life, we use the word "proportion" either for the comparative relation between parts of things with respect to size or quantity or when we want to describe a harmonious relationship between different parts. In mathematics, the term "proportion" is used to describe an equality of the type: nine is to three as six is to two. As we shall see, the Golden Ratio provides us with an intriguing mingling of the two definitions in that, while defined mathematically, it is claimed to have pleasingly harmonious qualities.

The first clear definition of what has later become known as the Golden Ratio was given around 300 B.C. by the founder of geometry as a formalized deductive system, Euclid of Alexandria. We shall return to Euclid and his fantastic accomplishments in other books, but at the moment let me note that Euclid defined a proportion derived from a simple division of a line into what he called its "extreme and mean ratio." In Euclid's words: A straight line is said to have been cut in extreme and mean ratio when, as the whole line is to the greater segment, so is the greater to the lesser.

As with any new concept, we must first begin by defining the key elements. To define the golden ratio, we first must understand that the ratio of two numbers, or magnitudes, is merely the relationship obtained by dividing these two quantities. When we have a ratio of 1:3, or ⅓ , we can conclude that one number is one third the other. Ratios are frequently used to make comparisons of quantities. One ratio stands out among the rest, and that is the ratio of the lengths of the two parts of a line segment which allows us to make the following equality of two ratios (the equality of two ratios is called a proportion): the whole line is to the greater segment, so is the greater to the lesser.



If we look at this figure, line (a+b) is certainly longer than the segment (a) ; at the same time, the segment (a) is longer than (b).

[larger segment a ÷ shorter segment b] is = to [whole line (a+b) ÷ larger segment a].

The Golden Ratio is a number that is neither a whole number (like the familiar 1, 2, 3, . . .) nor even a ratio of two whole numbers (like the fractions ½, ⅔, ¾,. ; known collectively as rational numbers). The precise value of the Golden Ratio [the ratio of (a) to (b)] is the never-ending, never-repeating number 1.6180339887 . . . , and such never-ending numbers are called irrational numbers. But more than that, it is as far as we can get from being near any fraction.

Just being irrational is not enough because the number Pi (3,141592654...), which is also irrational, unfortunately it has a decimal very close to 1/7 (= 0,142857...), so it ends up with 7 arms. And the number e (2,71828...) also irrational, does not work either because its decimal is close to 5/7 (0,714285...), so it also ends up with 7 arms.

One of the special properties of the Golden Ratio is that it can be defined in terms of itself, like this: $\varphi = 1 + 1/\varphi$ [In numbers: 1,61803... = 1 + (1÷1,61803...)].

## Formula

We saw above that the Golden Ratio has this property:

$$\frac{a}{b} = \frac{a+b}{a}$$

We can split the right-hand fraction like this:

$$\frac{a}{b} = \frac{a}{a} + \frac{b}{a}$$

$\frac{a}{b}$ is the Golden Ratio $\varphi$, $\frac{a}{a}=1$ and $\frac{b}{a}=\frac{1}{\varphi}$, which gets us:

$$\varphi = 1 + \frac{1}{\varphi}$$

The fact that the Golden Ratio cannot be expressed as a fraction (as a rational number) means simply that the ratio of the two lengths (a) and (b) cannot be expressed as a fraction. In other words, no matter how hard we search, we cannot find some common measure that is contained, let's say, 31 times in (a) and 19 times in (b) . Two such lengths that have no common measure are called incommensurable. The discovery that the Golden Ratio is an irrational number was therefore, at the same time, a discovery of incommensurability.

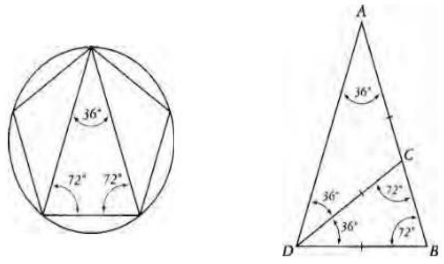
In professional mathematical literature, the common symbol for the Golden Ratio is the Greek letter tau (t; from the Greek top.ii, to-mi', which means "the cut" or "the section"). However, at

the beginning of the twentieth century, the American mathematician Mark Barr gave the ratio the name of phi, the first Greek letter in the name of Phidias, the great Greek sculptor who lived around 490 to 430 B.C. Phidias' greatest achievements were the "Athena Parthenos" in Athens and the "Zeus" in the temple of Olympia.
we will now take a brief exploratory tour through the very dawn of mathematics.

The magnitude of the discovery of incommensurability and irrational numbers cannot be overemphasized. Before this discovery, mathematicians had assumed that if you have any two line segments, one of which is longer than the other, then you can always find some smaller unit of measure so that the lengths of both segments will be exact whole-number multiples of this smaller unit. For example, if one segment is precisely 21.37 inches long and the other is 11.475 inches long, then we can measure both of them in units of one thousandth of an inch, and the first one will be 21,370 such units and the second 11,475 units. Early scholars therefore believed that finding such a common smaller measure was merely a matter of patient search. The discovery of incommensurability means that for the two segments of a line cut in a Golden Ratio [such as (a) and (b) in the figure], or for the diagonal and the side of a square, or for the diagonal and side of the pentagon, a common measure is never to be found.

How is this related to the pentagon?

For example, in a triangle n = 3, and the sum of all the angles is equal to 180 degrees. In a pentagon n = 5, and the sum of all the angles is equal to 540 degrees. Every angle of the pentagon is therefore equal to 540/5 = 108 degrees. Imagine now that we draw two adjacent diagonals in the pentagon, as in Figure a, thus forming three isosceles (with two equal sides) triangles. Since the two angles near the base of an isosceles triangle are equal, the base angles in the two triangles on the sides are 36 degrees each [half of (180° – 108°)). We therefore obtain for the angles of the middle triangle the values 36-72-72 (as marked in Figure a). If we bisect one of the two 72-degree base angles (as in Figure b), we obtain a smaller triangle DBC with the same angles (36-72-72) as the large one ADB. Using very elementary geometry, we can show that according to Euclid's definition, point C divides the line AB precisely in a Golden Ratio. Furthermore, the ratio of AD to DB is also equal to the Golden Ratio. In other words, in a regular pentagon, the ratio of the diagonal to the side is equal to Φ. We've said earlier that the side represents the child and diagonal to the parent. Does the relation between parent and children have to be in Golden ratio !




(a) (b)

The following table shows ways of representing Φ that were not possible in Euclid's time**.**

- To compute its square, add *unity*. $\Phi^2 = \Phi + 1$
- To compute its inverse, subtract *unity*. $\frac{1}{\Phi} = \Phi - 1$
- Subtract it from its square and get *unity*. $\Phi^2 - \Phi = 1$
- Don't forget that Φ is also … $\Phi = -0.618...$

But at this point you should notice a very unusual relationship. The value of Φ and 1/Φ differ by 1. That is, $\Phi - (1/\Phi) = 1$. From the normal relationship of reciprocals, the product of Φ and $(1/\Phi) = 1$. Therefore, we have two numbers, Φ and (1/Φ), whose difference and product is 1.

the value Φ satisfies the equation $x^2 - x - 1 = 0$

**3- <u>Fibonacci Numbers</u>**

There is a special relationship between the Golden Ratio and Fibonacci Numbers (0, 1, 1, 2, 3, 5, 8, 13, 21, ... etc, each number is the sum of the two numbers before it).

When we take any two successive (one after the other) Fibonacci Numbers, their ratio is very close to the Golden Ratio:

| A | B | B / A |
|---|---|---|
| 2 | 3 | 1,5 |
| 3 | 5 | 1,666666666... |
| 5 | 8 | 1,6 |
| 8 | 13 | 1,625 |
| 13 | 21 | 1,615384615... |
| ... | ... | ... |
| 144 | 233 | 1,618055556... |
| 233 | 377 | 1,618025751... |
| ... | ... | ... |

Then, the bigger value of Fibonacci Numbers we divide, the closer we get to the golden ratio. So, just like we naturally get seven arms when we use 0,142857 (1/7), we tend to get Fibonacci Numbers when we use the Golden Ratio.

These Fibonacci Numbers 0, 1, 1, 2, 3 exist in the verses of prophet Zakariya's story cited above. Before I start to analyse the Fibonacci Numbers from 0 to 3 in the verses, it is primordial that I explain the term "زَوْجَهُ" that all scholars with no exception traduced to "his wife". This meaning led to a lot of debate like why did god mention first that he gave the wife the birth of prophet Yahya then after he mentioned that he corrected the wife ? If the correction is to transform her from a barren wife to able to give birth then God had to mention the correction of the wife before the birth of the son because inorder for the son to be born the mother had to be corrected (become able to give birth) first. Other scholars to avoid this order problem they interpreted وَأَصْلَحْنَا لَهُ زَوْجَهُ (amended for his his wife) that the amendment is not about the physical ability to give birth but about her conduct so for them she gave birth to prophet Yahya first then God corrected her conduct to become better wife. And the debate and confusion is still going on.

I have an original mathematical interpretation that can resolve the problem with respect to order in the verse and the whole meaning of it. The word "زوج" in arabic means also "pair" so it could be the meaning is the "couple" not the wife. So for me the meaning is through 3 steps :

1. The couple was suffering from a lack of children because the wife was barren and husband (zakaria prophet) was old.

(verse 8 surah maryam : He said, "My Lord, how will I have a boy when my wife has been barren and I have reached extreme old age?"/قَالَ رَبِّ أَنَّىٰ يَكُونُ لِي غُلَامٌ وَكَانَتِ امْرَأَتِي عَاقِرًا وَقَدْ بَلَغْتُ مِنَ الْكِبَرِ عِتِيًّا).

2. God gave them a child.

[ We give you good tidings of a boy whose name will be John/ إِنَّا نُبَشِّرُكَ بِغُلَامٍ اسْمُهُ يَحْيَىٰ (verse 7, surah Maryam). Allah gives you good tidings of John/أَنَّ اللَّهَ يُبَشِّرُكَ بِيَحْيَىٰ (verse 39, surah Ali-Imran).

3. The couple's negative situation was corrected by the child's tiding and was transformed from childless couple to possibly fruitful couple.

[amended for him his pair/وَأَصْلَحْنَا لَهُ زَوْجَهُ (verse 90, surah Al-Anbiya)].

Now let's tackle the Fibonacci Numbers. The numbers that exist in these verses are 0, 1, 1, 2, 3. These are 5 numbers that may be pointed out by the 5 arabic letters. The golden ratio is in the human's creation. These are the verses that will help us getting more information about the prophet's Zakariya's family states and members:

Surah Maryam verses 1 to 11:

1- «**Kaf, Ha, Iyá, Ayn, Sód.**
2- [This is] a mention of the mercy of your Lord to His servant Zechariah.
3- When he called to his Lord a private supplication.
4- He said, "My Lord, indeed my bones have weakened, and my head has filled with white, and never have I been in my supplication to You, my Lord, unhappy.
5- And indeed, I fear the successors after me, and my wife has been barren, so give me from Yourself an heir.
6-Who will inherit me and inherit from the family of Jacob. And make him, my Lord, pleasing [to You]."
7- [He was told], "O Zechariah, indeed We give you good tidings of a boy whose name will be John. We have not assigned before to any [this] name."
8- He said, "My Lord, how will I have a boy when my wife has been barren and I have reached extreme old age?"
9- [An angel] said, "Thus [it will be]; your Lord says, 'It is easy for Me, for I created you before, while you were nothing.' "
10- [Zechariah] said, "My Lord, make for me a sign." He said, "Your sign is that you will not speak to the people for three nights, [being] sound."
11- So he came out to his people from the prayer chamber and signaled to them to exalt [ Allah ] in the morning and afternoon.»

**كهيعص** (1) ذِكْرُ رَحْمَتِ رَبِّكَ عَبْدَهُ زَكَرِيَّا (2) إِذْ نَادَىٰ رَبَّهُ نِدَاءً خَفِيًّا (3) قَالَ رَبِّ إِنِّي وَهَنَ الْعَظْمُ مِنِّي وَاشْتَعَلَ الرَّأْسُ شَيْبًا وَلَمْ أَكُن بِدُعَائِكَ رَبِّ شَقِيًّا (4) وَإِنِّي خِفْتُ الْمَوَالِيَ مِن وَرَائِي وَكَانَتِ امْرَأَتِي عَاقِرًا فَهَبْ لِي مِن لَّدُنكَ وَلِيًّا (5) يَرِثُنِي وَيَرِثُ مِنْ آلِ يَعْقُوبَ ۖ وَاجْعَلْهُ رَبِّ رَضِيًّا (6) يَا زَكَرِيَّا إِنَّا نُبَشِّرُكَ بِغُلَامٍ اسْمُهُ يَحْيَىٰ لَمْ نَجْعَل لَّهُ مِن قَبْلُ سَمِيًّا (7) قَالَ رَبِّ أَنَّىٰ يَكُونُ لِي غُلَامٌ وَكَانَتِ امْرَأَتِي عَاقِرًا وَقَدْ بَلَغْتُ مِنَ الْكِبَرِ عِتِيًّا (8) قَالَ كَذَٰلِكَ قَالَ رَبُّكَ هُوَ عَلَيَّ هَيِّنٌ وَقَدْ خَلَقْتُكَ مِن قَبْلُ وَلَمْ تَكُ شَيْئًا (9) قَالَ رَبِّ اجْعَل لِّي آيَةً ۚ قَالَ آيَتُكَ أَلَّا تُكَلِّمَ النَّاسَ ثَلَاثَ لَيَالٍ سَوِيًّا (10) فَخَرَجَ عَلَىٰ قَوْمِهِ مِنَ الْمِحْرَابِ فَأَوْحَىٰ إِلَيْهِمْ أَن سَبِّحُوا بُكْرَةً وَعَشِيًّا (11)
Surah Ali-Imran in verses 37 to 41

37- «So her Lord accepted her with good acceptance and caused her to grow in a good manner and put her in the care of Zechariah. Every time Zechariah entered upon her in the prayer chamber, he found her with

provision. He said, "O Mary, from where is this [coming] to you?" She said, "It is from Allah . Indeed, Allah provides for whom He wills without account."
38- At that, Zechariah called upon his Lord, saying, "My Lord, grant me from Yourself a good offspring. Indeed, You are the Hearer of supplication."
39- So the angels called him while he was standing in prayer in the chamber, "Indeed, Allah gives you good tidings of John, confirming a word from Allah and [who will be] honorable, abstaining [from women], and a prophet from among the righteous."
40- He said, "My Lord, how will I have a boy when I have reached old age and my wife is barren?" The angel said, "Such is Allah ; He does what He wills."
41- He said, "My Lord, make for me a sign." He Said, "Your sign is that you will not [be able to] speak to the people for three days except by gesture. And remember your Lord much and exalt [Him with praise] in the evening and the morning."»

فَتَقَبَّلَهَا رَبُّهَا بِقَبُولٍ حَسَنٍ وَأَنبَتَهَا نَبَاتًا حَسَنًا وَكَفَّلَهَا زَكَرِيَّا ۖ كُلَّمَا دَخَلَ عَلَيْهَا زَكَرِيَّا الْمِحْرَابَ وَجَدَ عِندَهَا رِزْقًا ۖ قَالَ يَا مَرْيَمُ أَنَّىٰ لَكِ هَٰذَا ۖ قَالَتْ
هُوَ مِنْ عِندِ اللَّهِ ۖ إِنَّ اللَّهَ يَرْزُقُ مَن يَشَاءُ بِغَيْرِ حِسَابٍ (37) هُنَالِكَ دَعَا زَكَرِيَّا رَبَّهُ ۖ قَالَ رَبِّ هَبْ لِي مِن لَّدُنكَ ذُرِّيَّةً طَيِّبَةً ۖ إِنَّكَ سَمِيعُ الدُّعَاءِ
(38) فَنَادَتْهُ الْمَلَائِكَةُ وَهُوَ قَائِمٌ يُصَلِّي فِي الْمِحْرَابِ أَنَّ اللَّهَ يُبَشِّرُكَ بِيَحْيَىٰ مُصَدِّقًا بِكَلِمَةٍ مِّنَ اللَّهِ وَسَيِّدًا وَحَصُورًا وَنَبِيًّا مِّنَ الصَّالِحِينَ (39)
قَالَ رَبِّ أَنَّىٰ يَكُونُ لِي غُلَامٌ وَقَدْ بَلَغَنِيَ الْكِبَرُ وَامْرَأَتِي عَاقِرٌ ۖ قَالَ كَذَٰلِكَ اللَّهُ يَفْعَلُ مَا يَشَاءُ (40) قَالَ رَبِّ اجْعَل لِّي آيَةً ۖ قَالَ آيَتُكَ أَلَّا تُكَلِّمَ النَّاسَ
ثَلَاثَةَ أَيَّامٍ إِلَّا رَمْزًا ۗ وَاذْكُر رَّبَّكَ كَثِيرًا وَسَبِّحْ بِالْعَشِيِّ وَالْإِبْكَارِ (41)

Surah Al-Anbiya verses 89-90

89- « And [mention] Zechariah, when he called to his Lord, "My Lord, do not leave me alone [with no heir], while you are the best of inheritors."
90- So We responded to him, and We gave to him John, and amended for him his wife. Indeed, they used to hasten to good deeds and supplicate Us in hope and fea and they were so humbly obedient of Us».

وَزَكَرِيَّا إِذْ نَادَىٰ رَبَّهُ رَبِّ لَا تَذَرْنِي فَرْدًا وَأَنتَ خَيْرُ الْوَارِثِينَ (89) فَاسْتَجَبْنَا لَهُ وَوَهَبْنَا لَهُ يَحْيَىٰ وَأَصْلَحْنَا لَهُ زَوْجَهُ ۚ إِنَّهُمْ كَانُوا يُسَارِعُونَ فِي
الْخَيْرَاتِ وَيَدْعُونَنَا رَغَبًا وَرَهَبًا ۖ وَكَانُوا لَنَا خَاشِعِينَ (90)

- State 0 [no member : **Kaf**] = while you were nothing/وَلَمْ تَكُ شَيْئًا (verse 9, surah Maryam).
- State 1 [one member : **Ha** (Zechariah)] = I created you before/وَقَدْ خَلَقْتُكَ مِن قَبْلُ (verse 9, surah Maryam).

0 +1 = 1 (first Fibonacci sum operation : ratio is 1÷1=1)

[ +1 member : Iyá (wife) ] = my wife has been barren/ وَكَانَتِ امْرَأَتِي عَاقِرًا (verse 8, surah Maryam).
My wife is barren/وَامْرَأَتِي عَاقِرٌ (verse 40, surah Ali-Imran).

1 + 1 = 2 (Second Fibonacci sum operation: ratio is 2÷1=1)

- State 2 [two members:**Ayn** (husband + wife)] = amended for him his pair/وَأَصْلَحْنَا لَهُ زَوْجَهُ (verse 90, surah Al-Anbiya). physical amendment that both became able to give birth to a child.

+1 [(one member : child Yahya) = We gave to him John/وَوَهَبْنَا لَهُ يَحْيَىٰ (verse 90, surah Al-Anbiya) ].

2 +1 = 3 (third Fibonacci sum operation: ratio is 3÷ 2 = 1.5)

- State 3 [three members: **Sód** (husband + wife + child) = «they»/«إِنَّهُمْ»(verse 90, surah Al-Anbiya).

The five numbers of human creation are then 0,1,1,2,3. These numbers apply also in the first human creation on earth. Remember the notorious story of Adam & Eve, the first humans on earth.

1. There was no human on earth (0 = **Kaf**);
2. Adam is created as first human from noone (1 = **Ha**);
3. Eve is created as second from noone (1 = **Iyá**);
4. Adam & Eve coupling forming pair (2 = **Ayn**);
5. Adam & Eve have a first human child forming all of them three members (3 = **Sód**).

This is the human creation law, but the creation of Jesus was an exception to this law that was mentioned with the story of Prophet Zakariya in the same surah.

The fourth Fibonacci sum operation must be 3+2 = 5 with ratio 5 ÷ 3 = 1,6666666666. So we are getting closer to the golden ratio 1,61803.

Now you must ask where is the number 5 mentioned in the verses about the prophet story zakariya! to move their state from state 3 to state 5 ? Actually we need to add the number 2. The story tells us that after they became 3 members they started all of them to «used to hasten to good deeds and supplicate Us in hope and fear and they were so humbly obedient of us»./ كَانُوا يُسَارِعُونَ فِي الْخَيْرَاتِ وَيَدْعُونَنَا رَغَبًا وَرَهَبًا ۖ وَكَانُوا لَنَا خَاشِعِينَ» (verse 90, surah Al-Anbiya).

The number 2 is also the amendment of the couple of state 2 but this time it is a moral amendment and not physical. could be these 2 actions mentioned in verse 90 surah Al-Anbiya:

1. hasten to good deeds and supplicate Us in hope.

«يُسَارِعُونَ فِي الْخَيْرَاتِ وَيَدْعُونَنَا رَغَبًا»

Good deeds comes with hope

2. supplicate Us in fear and they were so humbly obedient of us.

«وَيَدْعُونَنَا ......رَهَبًا ۖ وَكَانُوا لَنَا خَاشِعِينَ»

Humble obedience comes with fear

The state 2 (moral amendment : 2 prayers) + state 3 ( three members : husband + wife + child) the family of prophet zakariya reached the number 5 of Fibonacci sequence numbers with ratio 5 ÷ 3 = 1,6666666666. Then the more they pray 8, 13...the more they get closer to the golden ratio.

The number five has the particularity of being the first number in Fibonacci numbers that gives us the decimals 6 in the ratios: 1,6666666666. So it aligns the decimals of the ratios to 6 which is the same decimal in the golden ratio 1,61803.

**4- <u>The geometric graph</u>**

My quadratic equation is :

$ax^2 + bx + cx^0 = y$

$2x^2 + 1(x) + (-10)x^0 = y$

Now I have to find the:

1. **The vertex: The lowest points**

$x = -b \div 2a$
$x = -1 \div 2(2)$
$x = -\frac{1}{4}$ or $-0.25$

$y = 2(-0.25)^2 + (-0.25) - 10$
$y = -10.125$

2. **The range : All possible values of y which are the inputs.**

$y \geq -10.125$

**3. The domain: All values of the x which are the output.**

x = {All real numbers}, $x \in \mathbb{R}$

**4. The roots : The x points when y = 0**

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{-(1) \pm \sqrt{(1)^2 - 4(2)(-10)}}{2(2)}$$

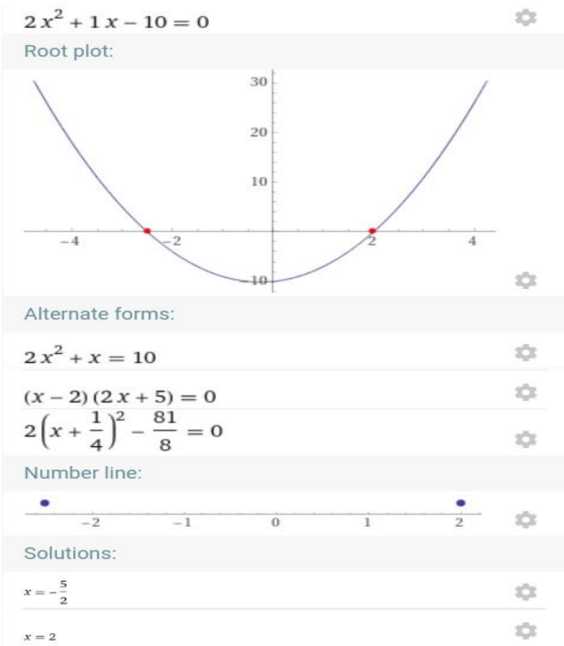
$$x = \frac{-1 \pm \sqrt{81}}{4}$$

$$x = 2 \quad \text{or} \quad x = \frac{-5}{2}$$

Answer:

$$x = 2 \quad \text{or} \quad x = \frac{-5}{2}$$

These two roots 2 and - 2.5 are graphed as follow :

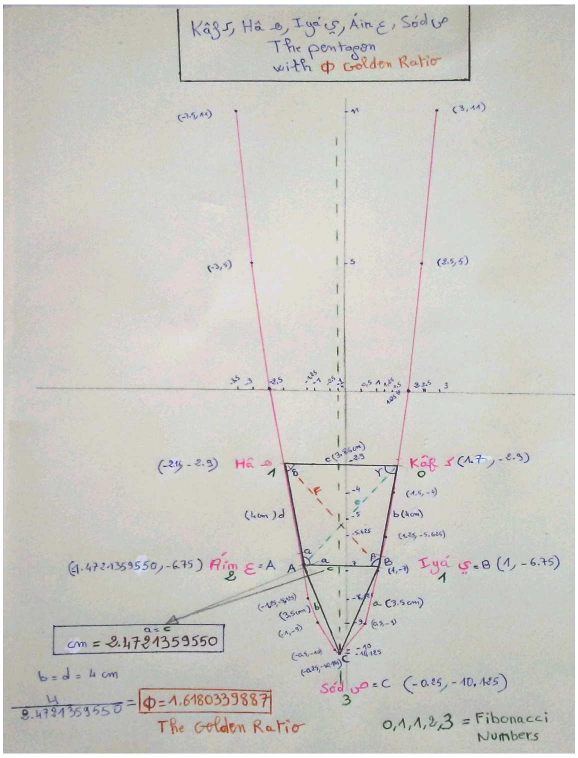


Now I will be choosing a set of points x and find their y then plot them on the x coordinate and y coordinate to draw the parabola manually then I will locate the 5 vertices: "كهيعص" / "Kaf, Ha, Iyá, Ayn, Sód".

**The كهيعص quadratic equation**

$ax^2 + bx + c = y$
$2x^2 + 1(x) + (-10) = y$

| X | Y | | |
|---|---|---|---|
| 1 | -7 | | |
| -1 | -9 | | |
| 1,5 | -4 | | |
| -0,25 | -10,125 | The vertex : The lowest point | |
| 1,25 | -5,625 | | |
| -1,25 | -8,125 | | |
| 0,5 | -9 | | |
| -0,5 | -10 | | |
| 2,5 | 5 | | |
| 2 | 0 | The roots : The x points when y = 0 | |
| -2,5 | 0 | | |
| 3 | 11 | | |
| -3 | 5 | | |
| -3,5 | 11 | | |




In my graph I graphed the parabola of the quadratic equation of the letters "كهيعص" / "Káf, Há, Iyá, A'in, Sód". Then I plugged the letters on the parabola, every letter represents one of

Fibonacci numbers 0,1,1,2,3 that were mentioned in the prophet Zakariya's story of human creation. The 5 letters form an irregular pentagon formed with a quadrilateral "Káf, Ha, Ya, 'Ayn" and isosceles triangle "Ya, 'Ayn, Sad".

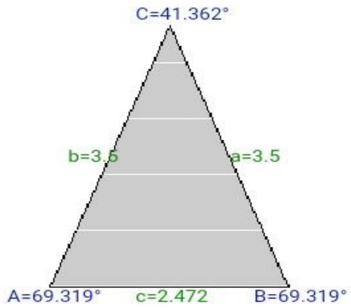
The pentagon has these properties :

1. The vertex «Kaf/ك», coordinates (1.7;-2.9), 0 Fibonacci's number;
2. The vertex «Ha/ه», coordinates (-2.16;-2.9), 1 Fibonacci's number;
3. The vertex «Iyá/ي», coordinates (1;-6.75), 1 Fibonacci number;
4. The vertex «Ayn/ع», coordinates (-1.4721359550; -6.75), 2 Fibonacci's number;
5. The vertex «Sód/ص», coordinates (-0.25;-10.125) which is the lowest point of the parabola, 3 Fibonacci's number.

This is my quadrilateral «Kaf, Ha, Iyá, Ayn,/كهيع» properties:

| | | |
|---|---|---|
| Side a: | 2.4721359550 | C |
| Side b: | 4 | C |
| Side c: | 3.86 | C |
| Side d: | 4 | |
| Angle α: | 99,981 | |
| Angle β: | 100 | C |
| Angle γ: | 80 | C |
| Angle δ: | 80,019 | |
| Diagonal e: | 5,054 | |
| Diagonal f: | 5,053 | |
| Perimeter (p): | 14,332 | |
| Area (A): | 12,472 | |

This is my triangle «Iyá, Ayn, Sód/يعص» properties:



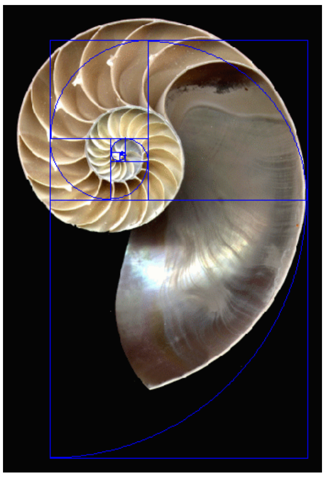

**Acute Isosceles Triangle**

Side a = 3.5
Side b = 3.5
Side c = 2.47214

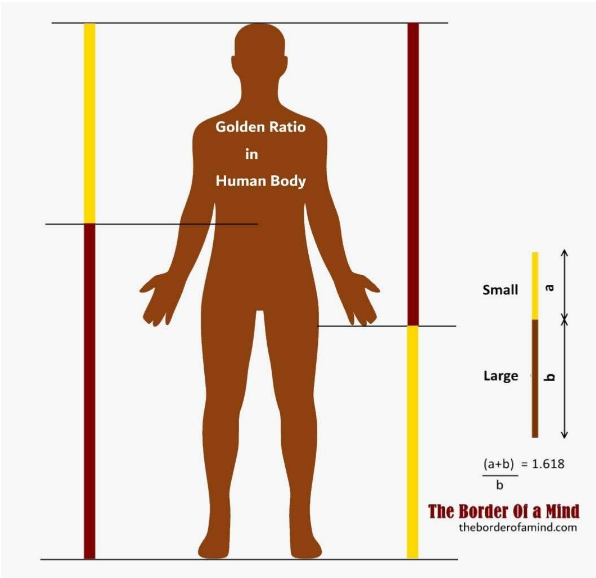
Angle ∠A = 69.319° = 69°19'9" = 1.20985 rad
Angle ∠B = 69.319° = 69°19'9" = 1.20985 rad
Angle ∠C = 41.362° = 41°21'42" = 0.7219 rad

Area = 4.04746
Perimeter p = 9.47214
Semiperimeter s = 4.73607

Notice that side 'a' (Iyá, Ayn,/ي–ع) in the quadrilateral "Kaf, Ha, Iyá, Ayn" is shared as side 'c' of the triangle "Iyá, Ayn, Sód" has the length of 2.4721359550 cm and the sides 'b' (Kaf–Iyá/ك–ي) and 'd' (Ha,Ayn/ه–ع) of the quadrilateral are the same measure 4 cm. If we divide 4÷2.4721359550 = 1.61803398874962 which is the GOLDEN RATIO Φ. It is the human creation ratio that was found in nature for example in the snail animal in the figure below :



We can then deduce that the golden ratio is the ratio of human creation discovered in these verses. And here is an example of the Golden ratio in human body:




**the ratio of a person's height to the height of his/her navel is roughly the golden ratio.**

# Chapter II
# ʾAlif-Lām-Mīm ألم
# Interest growth = Populations' decay

## I- The equation

### 1- An exponential equation

The letters combination «ʾAlif-Lām-Mīm» can be converted to numbers combination (1,23,24). Each letter corresponds to its ordinal number in the arabic alphabets.

The letter combination «ʾAlif-Lām-Mīm» :

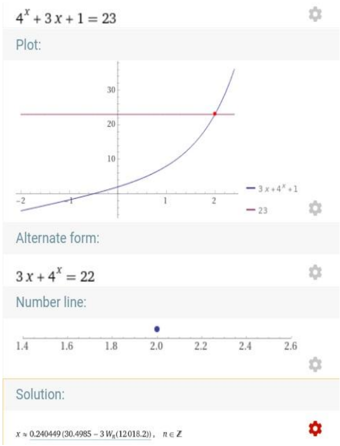
1. ʾAlif = Ordinal number 1 in arabic alphabets;
2. Lām = Ordinal number 23 in arabic alphabets;
3. Mīm = Ordinal number 24 in arabic alphabets.

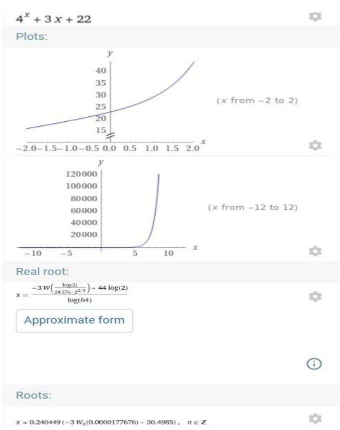
Then we calculate the operation that was done to move from the first number (1) of the combination to the second number (23) then from the second number to the third number (24).

So «ʾAlif-Lām-Mīm» can be written «1-23-24». The arithmetic operations are:

- $1 + 22 = 23$.
- $23 + 1 = 24$.

Then the equation would be $22 + 1 = 23$. Why Did I choose these numbers to make my equation ? Because you can figure all arabic alphabets as numbers on the number line. When you pronounce the letter "Alif/ألف", you are in space point 1. If you pronounce afterwards the letter "Lām/لام" you have moved to position 23 making a spacetime move of 22 units. Then when you pronounce the letter "Mīm/ميم", you have moved to position 24 making a spacetime move of 1 unit. In the end you have made 22 moves + 1 move = 23 moves. That is my equation that I can express in a form of an exponential equation : $4^x + 3x + 1 = 23$. This is an exponential equation that I solve and graph in the figure below.




So we have the variable x = 2.

The x exponent can vary, the larger the value of x, the faster the growing of the exponential function. In other words, the exponential function grows very rapidly if x grows. Let's illustrate with an example: Suppose that your mathematics instructor, in an effort to improve classroom attendance, offers to pay you each day for attending class! Suppose you are to receive 2¢ on the first day you attend class, 4¢ the second day, 8¢ the third day. How much money will you receive for attending class on the 30th day? As you can see by looking at the Table, the amount y earned on day x is given by the rule, or exponential function $y = 2^x$. Thus on the 30th day (when x 30) you will receive $y = 2^{30}$ cents. If you use a calculator, you will find this amount to be well over 10 million dollars! The point here is simply this: Although we begin with a small amount, y = 2¢, repeated doubling quickly leads to a very large amount as the table shows:

| X (day number) | Y(amount earned that day |
|---|---|
| 1 | 2¢ (= $2^1$) |
| 2 | 4¢ (= $2^2$) |
| 3 | 8¢ (= $2^3$) |
| 4 | 16¢ (= $2^4$) |
| 5 | 32¢ (= $2^5$) |
| . | . |
| . | . |
| . | . |
| x | $2^x$ |

We know that this exponential equation, if we simplify it, there would be a function in it : $4^x + 3x + 1 = 23$. We will subtract 23 from each side: $4^x + 3x + 1 - 23 = 23 - 23$ it becomes $4^x + 3x + (1 - 23) = 0$

My function is : $f(x) = 4^x + 3x + (1- 23)$ or we can write it : $y = 4^x + 3x + (1 - 23)$ or to more simplify it : $y = 3x + 4^x - 22$. In the end the function is $f(x) = 4^x + 3x +(-22)$ in form of $b^x + cx + d$. ( b,c and d are the constants and x is the variable). X can change from case to case but in the verses it is 2 which has a meaning will be explored later. Therefore 3, 4 and -22 are constants and x is changeable.

This function has domain and range all real numbers

1. Domain and range all real numbers

2. First derivative

Derivative:

$$\frac{d}{dx}(4^x + 3x + 22) = 4^x \log(4) + 3$$

Approximate form | Step-by-step solution

Indefinite integral:

$$\int (22 + 4^x + 3x)\,dx = \frac{3x^2}{2} + 22x + \frac{4^x}{\log(4)} + \text{constant}$$

Approximate form | Step-by-step solution

Series representations:

$$22 + 4^x + 3x = \sum_{n=-\infty}^{\infty} \left( \begin{cases} \frac{\log^n(4)}{n!} & n > 1 \\ 3 + \log(4) & n = 1 \\ 23 & n = 0 \end{cases} \right) x^n$$

$$22 + 4^x + 3x = \sum_{n=-\infty}^{\infty} \left( \begin{cases} \frac{4\log^n(4)}{n!} & n > 1 \\ 3 + \log(256) & n = 1 \\ 29 & n = 0 \end{cases} \right) (-1 + x)^n$$

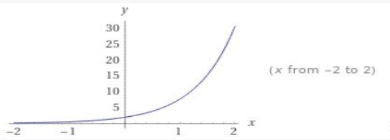
3. Second derivative

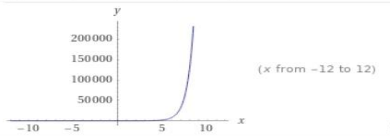
Derivative:

$$\frac{d^2}{dx^2}(4^x + 3x + 22) = 4^x \log^2(4)$$

Approximate form | Step-by-step solution

Plots:




Alternate form assuming x>0:

$4^{x+1} \log^2(2)$

## 2- <u>An exponential function</u>

Exponential and logarithmic functions are used to model a surprisingly wide variety of real-world phenomena: growth of populations of people, animals, and bacteria; decay of radioactive substances; epidemics; magnitudes of sounds and earthquakes. These and many other applications.

Many functions have exponents. But in every case, the exponent is a constant, and the base is often a variable. In our case, those roles will be reversed. In an exponential function, the variable appears in an exponent. As we'll see, this has a significant effect on the properties and graphs of these functions.

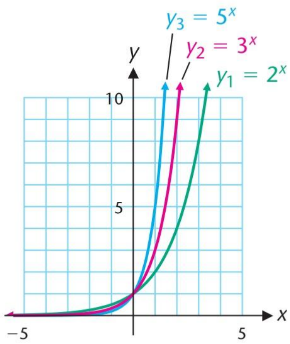
The equation $F(x) = b^x$ with $b > 0$ and $\neq 1$ defines an exponential function for each different constant b, called the base. The independent variable x can assume any real value.

The domain of F is the set of all real numbers, and it can be shown that the range of F is the set of all positive real numbers. We require the base b to be positive to avoid imaginary numbers such as $(2)^{½}$. $b = 0$ and $b = 1$ are excluded.

The exponential function is one of the most important functions in mathematics exactly as the linear function. To form an exponential function, we let the independent variable x be the exponent. A simple example is my function $f(x) = 4^x + 3x + (-22)$ of the form of $b^x + cx + d$ (x is 2 in the verses) but can be different numbers in other life cases and the base b in my function is 4.

An exponential function is used in dynamical systems to describe growth or decay. In the exponential growth of f(x) , the function doubles every time you add one to its input . In the exponential decay of g(x) , the function shrinks in half every time you add one to its input . The presence of this doubling time or half-life is characteristic of exponential functions, indicating how fast they grow or decay.

The base "b" of the exponentiation in my equation is 4. Increasing the base makes the curve steeper as shown in this graph



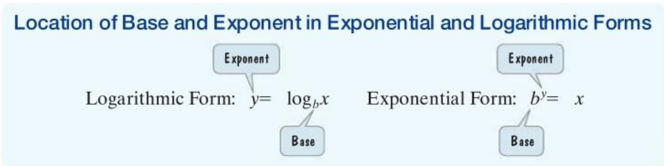
**Express an exponential model in base e.**

Any positive number can be used as the base b for an exponential function, but some bases are more useful than others. For instance, in computer science applications, the base 2 is convenient. The most important base though is the number denoted by the letter "e". The number "e" is irrational, so we cannot write its exact value; the approximate value to 20 decimal places is:

$$e \approx 2.71828182845904523536028747135.$$

It may seem at first that a base such as 10 is easier to work with, but in certain applications, such as compound interest or population growth, the number "e" is the best possible base.

No horizontal line can be drawn that intersects the graph of an exponential function at more than one point. This means that the exponential function is one-to-one and has an inverse. In mathematics, the logarithm is the inverse function to exponentiation. That means the logarithm of a given number x is the exponent to which another fixed number, the base b, must be raised, to produce that number x. In the simplest case, the logarithm counts the number of occurrences of the same factor in repeated multiplication; e.g., since $1000 = 10 \times 10 \times 10 = 10^3$, the "logarithm base 10" of 1000 is 3, or $\log_{10}(1000) = 3$. The logarithm of x to base b is denoted as $\log_b(x)$, or without parentheses, $\log_b x$, or even without the explicit base, $\log x$.

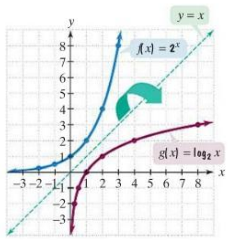



Exp: $e^y = 9$ means $y = \log_e 9$.

$4^2 = 16$ means $2 = \log_4 16$

$\log_4 16 = \ln_{16} \div \ln_4$

Exp with graph of the function $f(x) = 2^x$ and its inverse function $g(x) = \log_2 x$



Because of the inverse property $b = e^{\ln b}$ we can rewrite any model in the form $y = ab^x$ in terms of base "e". We can use laws of exponents and laws of logarithms to change any base to base e. This means I can change my base 4 in my model $4^x + 3x - 22$ to base e.

$y = ab^x$ is equivalent to $y = ae^{(\ln b) \times x}$. The $ab^x$ is in my equation is $1 \times 4^x$
I can use the letter y or replace it by f(x) or A, it has the same meaning: the output of the function.
My exponential equation is :
$A = 1 \times 4^x + 3x - 22$ becomes equivalent to
$A = A_0 \times e^{(\ln 4) \times 2} + (3 \times 2) - 22$.
A = the final quantity and $A_0$ is the starting quantity.

Why do I need to convert my base 4 to base e ? "e" is the base rate of growth shared by all continually growing processes. "e" lets you take a simple growth rate (where all change happens at the end of the year) and find the impact of compound, continuous growth, where every nanosecond (or faster) you are growing just a little bit.
"e" shows up whenever systems grow exponentially and continuously: population, radioactive decay, interest calculations, and more. Even jagged systems that don't grow smoothly can be approximated by e.
Just like every number (exp 10) can be considered a scaled version of 1 (1 is the base unit of all numbers exp: 10 is 1 repeated ten times), every rate of growth can be considered a scaled version of "e" (unit growth, perfectly compounded).
So "e" is not an obscure, seemingly random number. "e" represents the idea that all continually growing systems are scaled versions of a common rate.

The exponential function arises whenever a quantity grows or decays at a rate proportional to its current value. One such situation is continuously compounded interest, and in fact it was this observation that led Jacob Bernoulli in 1683 to the number "e":

$$\lim_{n\to\infty}\left(1+\frac{1}{n}\right)^n$$

now known as "e". Later, in 1697, Johann Bernoulli studied the calculus of the exponential function. If a principal amount of 1 earns interest at an annual rate of x compounded monthly, then the interest earned each month is (x÷12) times the current value, so each month the total value is multiplied by [1 + (x÷12)] and the value at the end of the year is $[1 + (x \div 12)]^{12}$. If instead interest is compounded daily, this becomes $[1 + (x \div 365)]^{365}$. Letting the number of time intervals per year grow without bound leads to the limit definition of the exponential function,

$$\exp x = \lim_{n \to \infty} \left(1 + \frac{x}{n}\right)^n$$

This table shows where did "e" come from:

| $n$ | $\left(1 + \frac{1}{n}\right)^n$ |
|---|---|
| 1 | 2 |
| 2 | 2.25 |
| 5 | 2.48832 |
| 10 | 2.59374246 |
| 100 | 2.704813829 |
| 1000 | 2.716923932 |
| 10,000 | 2.718145927 |
| 100,000 | 2.718268237 |
| 1,000,000 | 2.718280469 |
| 1,000,000,000 | 2.718281827 |
| As $n \to \infty$, $\left(1 + \frac{1}{n}\right)^n \to e$. | |

Your teacher or textbook may go on at length about using other bases for growth and decay equations, but, in "real life" (such as physics), the natural base "e" is generally used. The equation for "continual" growth (or decay) is $A = A_0e^{rt}$, where "A", is the ending amount, "$A_0$" is the beginning amount (principal, in the case of money), "r" is the growth or decay rate (expressed as a decimal), and "t" is the time (in whatever unit was used on the growth/decay rate).

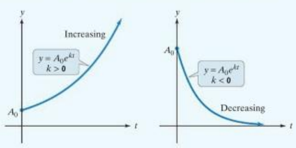
The continuous-growth formula is first given in the form «$A = A_0e^{rt}$», using "r" for the growth rate, but can also probably be given as $A = A_0e^{kt}$, where "k" replaces "r", and stands for "growth (or decay) constant". Or different variables may be used, such as $Q = Ne^{kt}$, where "N" stands for the beginning amount and "Q" stands for the ending amount. The point is that, regardless of the letters used, the formula remains the same. And you should be familiar enough with the formula to recognize it, no matter what letters happen to be included within it.

**Exponential Growth and Decay Models**

The mathematical model for **exponential growth** or **decay** is given by

$$f(t) = A_0e^{kt} \quad \text{or} \quad A = A_0e^{kt}.$$

- **If $k > 0$, the function models the amount, or size, of a *growing* entity.** $A_0$ is the original amount, or size, of the growing entity at time $t = 0$, $A$ is the amount at time $t$, and $k$ is a constant representing the growth rate.
- **If $k < 0$, the function models the amount, or size, of a *decaying* entity.** $A_0$ is the original amount, or size, of the decaying entity at time $t = 0$, $A$ is the amount at time $t$, and $k$ is a constant representing the decay rate.




**(a)** Exponential growth **(b)** Exponential decay

Example: certain bacteria, given favorable growth conditions, grow continuously at a rate of 4.6% a day. Find the bacterial population after thirty-six hours, if the initial population was 250 bacteria.

As soon as you read "continuously", you should be thinking "continuously-compounded growth formula". "Continuously" is the buzz-word that tells you to use «$A = A_0e^{rt}$». The beginning amount was $A_0 = 250$, the growth rate is $r = 0.046$, and the time $t$ is $36/24 = 1.5$ days.

Why is "time" converted to days instead of to years? Because the growth rate is expressed in terms of a given percentage per day. The rates in the compound-interest formula for money are always annual rates, which is why it was always in years in that context. But this is not the case for the general continual-growth/decay formula; the growth/decay rates in other, non-monetary, contexts might be measured in minutes, hours, days, etc.

I plug in the known values, and simplify for the answer:

$$A = 250e^{(0.046\times1.5)}$$
$$= 250e^{0.069}$$
$$= 267.859052287...$$

There will be about 268 bacteria after thirty-six hours.

In this Example , we replaced f(x) with A and x with t so that the model has the same letters as those in the exponential growth model $A = A_0e^{kt}$.

In my equation the :

$$A = A_0\times e^{(\ln 4)\times 2} + (3\times2) - 22.$$

- A (ending quantity): 0
- $A_0$ ( the beginning quantity):1
- K is $^{(\ln 4)}$ (growth rate = 1.38629436111989 and in percentage is 138.62943611198%
- T (time) is 2

Is the time unit in my equation 2 seconds or 2 minutes or what time unit ? So that a quantity equal to 1 becomes 0 after that time unit 2.

The question is: What kind of dynamical system of growth is talked about in these verses opened by letters «ʾAlif-Lām-Mīm»/ ألم ?

Let's explore the surahs one by one:

## II- **The verses**

This combination "Alif, Lam, Meem" came in verse 1 of:

1. Surah Al-Baqara;
2. Surah Ali-Imran;
3. Surah Al-Ankabut;
4. Surah Ar-Rum;
5. Surat As-Sajdah.

All these surahs have talked about a dynamical system which is the interest and the population growth. My exponential function is a function that describes these systems. This is why I converted my base 4 to base "e" because the base "e" shows up whenever systems grow exponentially and continuously (every nanosecond or the smallest part of a second) : population, radioactive decay, interest calculations.

You will notice by studying these verses that there is interest growing continuously and populations decaying continuously. Are both growing system related ? Does any society that uses interest's growing system causes its population's decay ? That's what I am going to try to discover next.

### 1- **The Usury/Riba**

'Riba' (Arabic: الربا، الربٰوة, ربا ribā or al-ribā, IPA: [ˈrɪbæː]) can be roughly translated as "usury", or unjust, exploitative gains made in trade or business under Islamic law. Riba is mentioned and condemned in several different verses in the Qur'an . It is also mentioned in many hadith

While Muslims agree that riba is prohibited, not all agree on what precisely it is. It is often used as an Islamic term for interest charged on loans, and the belief this is based on — that there is a consensus among Muslims that all loan/bank interest is riba — forms the basis of a $2 trillion Islamic banking industry. However, not all scholars equated riba with all forms of interest, or agree whether its use is a major sin or simply discouraged (makruh), or whether it is in violation of sharia (Islamic law) to be punished by humans rather than by Allah.

There are two principal forms of riba. Most prevalent is the interest or other increase on a loan of cash, which is known as riba an-nasiya. Most Islamic jurists hold there is another type of riba, which is the simultaneous exchange of unequal quantities or qualities of a given commodity. This is known riba al-fadl.

Before I continue with my mathematical analysis about usury (interest), I would like to mention the debate within islamic scholars about the bank interest that returns to the bank client when they deposit their money in the bank and earn interest.

The controversy about the permissibility or prohibition of bank interest started in the colonial times, in the 19-century onwards, when banking institutions came to the Islamic world. There is a controversy that first raged in Egypt. It is said that the Grand Mufti of Egypt, Muhammad Abduh, had permitted interest on postal savings though the fatwa issued by him. Today, many still ask if bank interest is prohibited in Islam. Most of the jurists maintain that it is not permissible, and Muslims should not accept interest on their bank deposits.

In the latter part of the 20-century many Muslim intellectuals came out with the concept of Islamic banking based on mudaraba and profit-sharing. A number of Islamic banks were started in Muslim and non-Muslim countries with a large Muslim population. Still the question continues to be asked if banking interest is permissible, and there is no unanimity of opinion on this question.

Yet, there are many Islamic scholars who feel that banking interest is not prohibited by Islam. Many modern commentators of the Quran also translate riba as usury and not as simple banking interest. From Pakistan Prof Fazlur Rehman, who had migrated to the US and taught at Chicago University for a number of years, wrote a very well-argued paper on the permissibility or otherwise of banking interest. He came to the conclusion that banking interest is not prohibited. Even those who do not agree with this view must read his article. It is very scholarly and based on original sources.

My book is not about supporting bank interest or not. I am not a scholar to say if it is legitimate (Halal) or not (Haram). I will be using the word «usury» and drop down the word «interest» to avoid any confusion for the readers because I am going to discuss the usury and its growth in this chapter which is not legitimate.

The verses are as follows:

The verses 275-281 of surah Al-Baqarah :

"الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ۚ ذَٰلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ الرِّبَا ۗ وَأَحَلَّ اللَّهُ الْبَيْعَ
وَحَرَّمَ الرِّبَا ۚ فَمَن جَاءَهُ مَوْعِظَةٌ مِّن رَّبِّهِ فَانتَهَىٰ فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ ۖ وَمَنْ عَادَ فَأُولَٰئِكَ أَصْحَابُ النَّارِ ۖ هُمْ فِيهَا خَالِدُونَ
(275) يَمْحَقُ اللَّهُ الرِّبَا وَيُرْبِي الصَّدَقَاتِ ۗ وَاللَّهُ لَا يُحِبُّ كُلَّ كَفَّارٍ أَثِيمٍ (276) إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ وَأَقَامُوا الصَّلَاةَ
وَآتَوُا الزَّكَاةَ لَهُمْ أَجْرُهُمْ عِندَ رَبِّهِمْ وَلَا خَوْفٌ عَلَيْهِمْ وَلَا هُمْ يَحْزَنُونَ (277) يَا أَيُّهَا الَّذِينَ آمَنُوا اتَّقُوا اللَّهَ وَذَرُوا مَا بَقِيَ مِنَ الرِّبَا
إِن كُنتُم مُّؤْمِنِينَ (278) فَإِن لَّمْ تَفْعَلُوا فَأْذَنُوا بِحَرْبٍ مِّنَ اللَّهِ وَرَسُولِهِ ۖ وَإِن تُبْتُمْ فَلَكُمْ رُءُوسُ أَمْوَالِكُمْ لَا تَظْلِمُونَ وَلَا تُظْلَمُونَ
(279) وَإِن كَانَ ذُو عُسْرَةٍ فَنَظِرَةٌ إِلَىٰ مَيْسَرَةٍ ۚ وَأَن تَصَدَّقُوا خَيْرٌ لَّكُمْ ۖ إِن كُنتُمْ تَعْلَمُونَ (280) وَاتَّقُوا يَوْمًا تُرْجَعُونَ فِيهِ إِلَى اللَّهِ ۖ
ثُمَّ تُوَفَّىٰ كُلُّ نَفْسٍ مَّا كَسَبَتْ وَهُمْ لَا يُظْلَمُونَ" (281)

275- "Those who consume interest cannot stand [on the Day of Resurrection] except as one stands who is being beaten by Satan into insanity. That is because they say, "Trade is [just] like interest." But Allah has permitted trade and has forbidden interest. So whoever has received an admonition from his Lord and desists may have what is past, and his affair rests with Allah . But whoever returns to [dealing in interest or usury] - those are the companions of the Fire; they will abide eternally therein."
276- Allah destroys interest and gives increase for charities. And Allah does not like every sinning disbeliever.
277-Indeed, those who believe and do righteous deeds and establish prayer and give zakah will have their reward with their Lord, and there will be no fear concerning them, nor will they grieve.
278- O you who have believed, fear Allah and give up what remains [due to you] of interest, if you should be believers.
279-And if you do not, then be informed of a war [against you] from Allah and His Messenger. But if you repent, you may have your principal - [thus] you do no wrong, nor are you wronged.
280- And if someone is in hardship, then [let there be] postponement until [a time of] ease. But if you give [from your right as] charity, then it is better for you, if you only knew.
281- And fear a Day when you will be returned to Allah . Then every soul will be compensated for what it earned, and they will not be treated unjustly.

The verses 130-132 surah Ali-Imran

"يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا الرِّبَا أَضْعَافًا مُّضَاعَفَةً ۖ وَاتَّقُوا اللَّهَ لَعَلَّكُمْ تُفْلِحُونَ (130) وَاتَّقُوا النَّارَ الَّتِي أُعِدَّتْ لِلْكَافِرِينَ (131)
وَأَطِيعُوا اللَّهَ وَالرَّسُولَ لَعَلَّكُمْ تُرْحَمُونَ "(132)
130- O you who have believed, do not consume usury, doubled and multiplied, but fear Allah that you may be successful.
131-And fear the Fire, which has been prepared for the disbelievers.

132-And obey Allah and the Messenger that you may obtain mercy.

Here doubled and multiplied is illustrated with the exponential growth model $A = A_0e^{kt}$. The interest growth in the quran.

In the function that I derived from the quran :

- A (ending quantity) is 0.
- $A_0$ (the beginning quantity when t =0) is 1.
- K is $^{(\ln 4)}$ = 1.38629436111989 and growth rate is 138.629436111989%
- T (time) is 2

It means that every 2 units of time — The Quran did not precise if the time unit is a minute, a month, a year or a century— the 1 unit of money (any currency, dollar or dirham or dinar…) grows at a rate of 138.629436111989% – 22 to become 0.

The formula for my exponential growth function is:

$A = A_0e^{kt}$
$0 = 1e^{(1.38\times 2)} + [(3\times 2) - 22]$ under the general form of : $A=A_0e^{(1.38\times x)} + (3x - 22)$.

- 1.38 is the growth rate by which "$A_0$" quantity changes when time "t" increases by 1 unit. "t" is x that can be any number from [-∞,+∞] and can be 2.
- The growth rate is written as a decimal 1.38 and can be converted to percentage 138%.
- – 22 is the constant.
- 0 is the "A" ending quantity

The Mekkan verse 39 in Surah Ar-Rum was the first to be revealed on the topic:

"وَمَا آتَيْتُم مِّن رِّبًا لِّيَرْبُوَ فِي أَمْوَالِ النَّاسِ فَلَا يَرْبُو عِندَ اللَّهِ ۖ وَمَا آتَيْتُم مِّن زَكَاةٍ تُرِيدُونَ وَجْهَ اللَّهِ فَأُولَٰئِكَ هُمُ الْمُضْعِفُونَ"(39)
39-"And whatever you give for interest to increase within the wealth of people will not increase with Allah . But what you give in zakat, desiring the countenance of Allah - those are the multipliers."

Hadith in musnad imam Ahmad said:

حَدَّثَنَا حُسَيْنُ بْنُ مُحَمَّدٍ، حَدَّثَنَا جَرِيرٌ يَعْنِي ابْنَ حَازِمٍ، عَنْ أَيُّوبَ، عَنِ ابْنِ أَبِي مُلَيْكَةَ، عَنْ عَبْدِ اللهِ بْنِ حَنْظَلَةَ غَسِيلِ الْمَلَائِكَةِ، قَالَ: قَالَ رَسُولُ اللهِ صَلَّى اللهُ عَلَيْهِ وَسَلَّمَ: " دِرْهَمُ رِبًا يَأْكُلُهُ الرَّجُلُ وَهُوَ يَعْلَمُ، أَشَدُّ مِنْ سِتَّةٍ وَثَلَاثِينَ زَنْيَةً.

From 'Abdallah ibn Hanzalah : The Prophet said: "A dirham of riba which a man receives knowingly is worse than committing adultery thirty six times".

Then in verse 36 surah Al-Ankabut:

The verse 36 talks about the people of Madyan. In this surah obviously there is no verse that talks clearly about usury but there is a trace of it that we can find in verses 85-86 surah Al-Araaf about people of Madyan who were mentioned as financially wrongdoers:

وَإِلَىٰ مَدْيَنَ أَخَاهُمْ شُعَيْبًا ۗ قَالَ يَا قَوْمِ اعْبُدُوا اللَّهَ مَا لَكُم مِّنْ إِلَٰهٍ غَيْرُهُ ۖ قَدْ جَاءَتْكُم بَيِّنَةٌ مِّن رَّبِّكُمْ ۖ فَأَوْفُوا الْكَيْلَ وَالْمِيزَانَ وَلَا تَبْخَسُوا النَّاسَ أَشْيَاءَهُمْ وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا ۚ ذَٰلِكُمْ خَيْرٌ لَّكُمْ إِن كُنتُم مُّؤْمِنِينَ (85) وَلَا تَقْعُدُوا بِكُلِّ صِرَاطٍ تُوعِدُونَ وَتَصُدُّونَ عَن سَبِيلِ اللَّهِ مَنْ آمَنَ بِهِ وَتَبْغُونَهَا عِوَجًا ۚ وَاذْكُرُوا إِذْ كُنتُمْ قَلِيلًا فَكَثَّرَكُمْ ۖ وَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الْمُفْسِدِينَ (86)

85-"And to [the people of] Madyan [We sent] their brother Shuʿayb. He said, "O my people, worship Allah; you have no deity other than Him. There has come to you clear evidence from your Lord. So fulfill the measure and weight and do not deprive people of their due and cause not corruption upon the earth after its reformation. That is better for you, if you should be believers."
86-"And do not sit on every path, threatening and averting from the way of Allah those who believe in Him, seeking to make it [seem] deviant. And remember when you were few and He increased you. And see how the end of the corrupters was."

They may have been using usury in their transactions then they sit on every path, threatening their debtors if they don't pay the amount of usury

**2- <u>The populations' decay</u>**

These 2 surahs are about populations

Surah Al-Ankabut

وَلَقَدْ أَرْسَلْنَا نُوحًا إِلَىٰ قَوْمِهِ فَلَبِثَ فِيهِمْ أَلْفَ سَنَةٍ إِلَّا خَمْسِينَ عَامًا فَأَخَذَهُمُ الطُّوفَانُ وَهُمْ ظَالِمُونَ(14) فَأَنجَيْنَاهُ وَأَصْحَابَ السَّفِينَةِ وَجَعَلْنَاهَا آيَةً لِّلْعَالَمِينَ(15)

14-"And We certainly sent Noah to his people, and he remained among them a thousand years minus fifty years, and the flood seized them while they were wrongdoers."
15-"But We saved him and the companions of the ship, and We made it a sign for the worlds."

أَوَلَمْ يَرَوْا كَيْفَ يُبْدِئُ اللَّهُ الْخَلْقَ ثُمَّ يُعِيدُهُ ۚ إِنَّ ذَٰلِكَ عَلَى اللَّهِ يَسِيرٌ (19) قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ۚ ثُمَّ اللَّهُ يُنشِئُ النَّشْأَةَ الْآخِرَةَ ۚ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ (20)

19-"Have they not considered how Allah begins creation and then repeats it? Indeed that, for Allah, is easy."
20-"Say, [O Muhammad], "Travel through the land and observe how He began creation. Then Allah will produce the final creation. Indeed Allah, over all things, is competent."

وَلَمَّا جَاءَتْ رُسُلُنَا إِبْرَاهِيمَ بِالْبُشْرَىٰ قَالُوا إِنَّا مُهْلِكُو أَهْلِ هَٰذِهِ الْقَرْيَةِ ۖ إِنَّ أَهْلَهَا كَانُوا ظَالِمِينَ (31).

31-"And when Our messengers came to Abraham with the good tidings, they said, "Indeed, we will destroy the people of that Lot's city. Indeed, its people have been wrongdoers."

وَإِلَىٰ مَدْيَنَ أَخَاهُمْ شُعَيْبًا فَقَالَ يَا قَوْمِ اعْبُدُوا اللَّهَ وَارْجُوا الْيَوْمَ الْآخِرَ وَلَا تَعْثَوْا فِي الْأَرْضِ مُفْسِدِينَ (36) فَكَذَّبُوهُ فَأَخَذَتْهُمُ الرَّجْفَةُ
فَأَصْبَحُوا فِي دَارِهِمْ جَاثِمِينَ (37) وَعَادًا وَثَمُودَ وَقَد تَّبَيَّنَ لَكُم مِّن مَّسَاكِنِهِمْ ۖ وَزَيَّنَ لَهُمُ الشَّيْطَانُ أَعْمَالَهُمْ فَصَدَّهُمْ عَنِ السَّبِيلِ
وَكَانُوا مُسْتَبْصِرِينَ (38) وَقَارُونَ وَفِرْعَوْنَ وَهَامَانَ ۖ وَلَقَدْ جَاءَهُم مُّوسَىٰ بِالْبَيِّنَاتِ فَاسْتَكْبَرُوا فِي الْأَرْضِ وَمَا كَانُوا سَابِقِينَ (39)
فَكُلًّا أَخَذْنَا بِذَنبِهِ ۖ فَمِنْهُم مَّنْ أَرْسَلْنَا عَلَيْهِ حَاصِبًا وَمِنْهُم مَّنْ أَخَذَتْهُ الصَّيْحَةُ وَمِنْهُم مَّنْ خَسَفْنَا بِهِ الْأَرْضَ وَمِنْهُم مَّنْ أَغْرَقْنَا ۚ وَمَا
كَانَ اللَّهُ لِيَظْلِمَهُمْ وَلَٰكِن كَانُوا أَنفُسَهُمْ يَظْلِمُونَ"(40)

36-"And to Madyan [We sent] their brother Shu'ayb, and he said, "O my people, worship Allah and expect the Last Day and do not commit abuse on the earth, spreading corruption.
37- But they denied him, so the earthquake seized them, and they became within their home [corpses] fallen prone.
38- And [We destroyed] 'Aad and Thamud, and it has become clear to you from their [ruined] dwellings. And Satan had made pleasing to them their deeds and averted them from the path, and they were endowed with perception.
39-And [We destroyed] Qarun and Pharaoh and Haman. And Moses had already come to them with clear evidence, and they were arrogant in the land, but they were not outrunners [of Our punishment]."
40-"So each We seized for his sin; and among them were those upon whom We sent a storm of stones, and among them were those who were seized by the blast [from the sky], and among them were those whom We caused the earth to swallow, and among them were those whom We drowned. And Allah would not have wronged them, but it was they who were wronging themselves."

And sûrat As-Sajda

"الَّذِي أَحْسَنَ كُلَّ شَيْءٍ خَلَقَهُ ۖ وَبَدَأَ خَلْقَ الْإِنسَانِ مِن طِينٍ(7) ثُمَّ جَعَلَ نَسْلَهُ مِن سُلَالَةٍ مِّن مَّاءٍ مَّهِينٍ (8) ثُمَّ سَوَّاهُ وَنَفَخَ فِيهِ مِن
رُّوحِهِ ۖ وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ ۚ قَلِيلًا مَّا تَشْكُرُونَ (9) وَقَالُوا أَإِذَا ضَلَلْنَا فِي الْأَرْضِ أَإِنَّا لَفِي خَلْقٍ جَدِيدٍ ۚ بَلْ هُم بِلِقَاءِ
رَبِّهِمْ كَافِرُونَ (10) قُلْ يَتَوَفَّاكُم مَّلَكُ الْمَوْتِ الَّذِي وُكِّلَ بِكُمْ ثُمَّ إِلَىٰ رَبِّكُمْ تُرْجَعُونَ (11)

7-"Who perfected everything which He created and began the creation of man from clay.
8-Then He made his posterity out of the extract of a liquid disdained.

9-Then He proportioned him and breathed into him from His [created] soul and made for you hearing and vision and hearts; little are you grateful.
10-And they say, "When we are lost within the earth, will we indeed be [recreated] in a new creation?" Rather, they are, in [the matter of] the meeting with their Lord, disbelievers.
11- Say, "The angel of death will take you who has been entrusted with you. Then to your Lord you will be returned."

أَوَلَمْ يَهْدِ لَهُمْ كَمْ أَهْلَكْنَا مِن قَبْلِهِم مِّنَ الْقُرُونِ يَمْشُونَ فِي مَسَاكِنِهِمْ ۚ إِنَّ فِي ذَٰلِكَ لَآيَاتٍ ۖ أَفَلَا يَسْمَعُونَ (26)

26-"Has it not become clear to them how many generations We destroyed before them, [as] they walk among their dwellings? Indeed in that are signs; then do they not hear?"

All these verses are talking about populations' complete destruction event. And the amazing surprising thing is that every time the surah starts by the letter Alif, Lam, Meem/الم, it treats two subjects, the interest (usury) and the population destruction (decay) . Even though it does not link directly the destruction as a result of the use of usury in a society but the association between them is acceptable because nothing is said by God with no reason. The fact that both interest and population destruction are talked about in the same surah,  it means there is a possible logical link that I will try to dimestify using the mathematical equation of the interest computation. For that, I would postulate that these populations did not disappear suddenly by the destruction event mentioned in the verses (earthquake, flood, blast…) but I would think that their numbers decayed progressively until they were hit by the final destruction event and that was because of their wrongdoings of applying usury (interest) in their financial transactions.

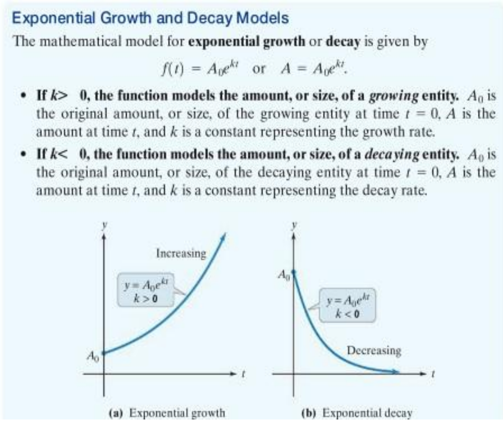
This will allow me to associate the population exponential decay equation with the interest exponential growth equation.

The formula for my exponential interest growth function is:

$A = A_0 e^{rt}$
Equation is : $0 = 1e^{(1.38\times 2)} + (6\text{-}22)$.
Function is: $A = A_0 e^{(1.38\times x)} + (3x - 22)$.

So what would the population exponential decay equation be ?

According to the table below, when "k" or we can call it "r" for rate is < 0 there is an exponential decay



Exponential Growth and Decay Models

The mathematical model for **exponential growth** or **decay** is given by

$$f(t) = A_0e^{kt} \quad \text{or} \quad A = A_0e^{kt}.$$

- **If $k > 0$, the function models the amount, or size, of a *growing* entity.** $A_0$ is the original amount, or size, of the growing entity at time $t = 0$, $A$ is the amount at time $t$, and $k$ is a constant representing the growth rate.
- **If $k < 0$, the function models the amount, or size, of a *decaying* entity.** $A_0$ is the original amount, or size, of the decaying entity at time $t = 0$, $A$ is the amount at time $t$, and $k$ is a constant representing the decay rate.



**(a)** Exponential growth **(b)** Exponential decay

As long as we said that the all surahs starting by letters Alif, Lam, Meem/الم associate the two subjects of usury (interest) and population destruction, I can postulate that the exponential equation that I derived from these letters applies to the usury (interest) growth and population decay (destruction) in the same time.

The larger "t" time gets (more the time runs), the bigger the usury (interest) becomes in a society and faster is the population's decay.

Let's explain it algebraically, if the usury growth function is :

$A = A_0e^{rt}$

$A = A_0e^{(1.38\times x)} + (3\times x) - 22$

exp:

Let's say that the population of apes are using usury growth in their financial transaction with the formula:

$A = A_0e^{rt}$

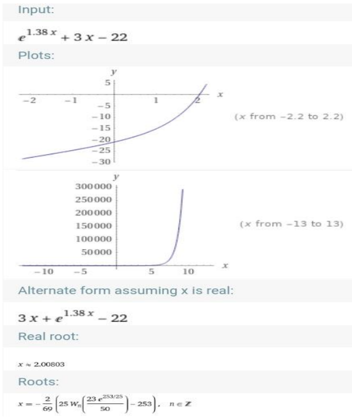
$Y = A_0e^{(1.38\times x)} + (3\times x) - 22$

If at the year 2020 (time = $t_0$) the amount of money lended to you by the bank is $A_0$ (100\$), after x units of time, the amount of money that you have to pay back grows and becomes A = 100\$ × $e^{(1.38\times x)} + [(3\times x) - 22]$.

- After 3 time units it becomes $100e^{(1.38\times 3)} + [(3\times 3) - 22] = 6267$\$;
- After 4 time units it becomes $100e^{(1.38\times 4)} + [(3\times 4) - 22] = 24953.$\$;
- After 5 time unit it becomes $100e^{(1.38\times 5)} + [(3\times 5) - 22] = 99220$\$

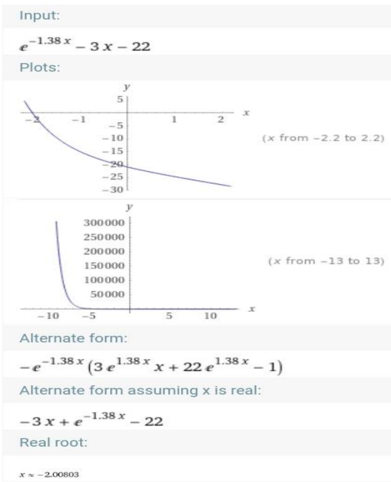
Notice how the 100$ becomes 99220$ after 5 time units. This huge increase in the lended money can give us a hint of the time unit to be more probably 100 or 1000 years (one century or ten centuries) .

The usury growth function graph is




Then the population (that uses usury growth in its society) decay exponential function would be:
$A = A_0 e^{-rt}$
Or we can write A = $A_0 e^{(-1.38\times x)} - (3x) - 22$

This function graph is:



If the population of apes is about 1000 members:

- After 1 time unit (100 or 1000 years) it becomes $1000e^{(-1.38\times1)} - [(3\times1)-22] =$ 226.578553059757 apes
- After 2 time units (200 or 2000 years) it becomes $1000e^{(-1.38\times2)} - [(3\times2)-22] =$ 35.2917683596407 apes;
- After 3 time units (300 or 3000 years) it becomes $1000e^{(-1.38\times3)} - [(3\times3)-22] =$ -15.0771484954883 apes;

Notice the population number of apes decays in 3 times unit from 1000 apes to -15 apes, it means they disappeared -15<0. Was the time unit 100 years or 1000 years ? Did the apes disappear after 300 years or after 3000 years ? I will try to answer this question later.

Here I would like to mention that some very developed countries are using usury in their financial transactions and their societies are suffering from population decay which caused the lack of workforce and their trial to import that workforce from other countries like europeans countries that encourage the immigration from the african continent.

A population decline (sometimes underpopulation or depopulation) in humans is a reduction in a human population size caused by short term events such as pandemics, wars, famines or other catastrophes, or by long-term demographic trends, as in sub-replacement fertility rate, or persistent emigration.

Even though short-term population shocks have caused terrible loss of life and human misery, sometimes lasting several centuries, over the long-term, stretching from prehistory to the present, this planet's human population has continued to grow. However, current events suggest that this long-term trend may be coming to an end. Up until the beginning of the industrial revolution, the global population grew very slowly. After about 1800 the growth rate accelerated to a peak of 2.1% annually in 1962; but since then, due to the world-wide collapse of the total fertility rate, it has declined to 1.1% today (2020). Long-term projections predict that the growth rate of the human population of this planet will continue to decline, and that by the end of the 21st Century, will reach zero.

Examples of this emerging trend are Japan, whose population is currently (2015-2020) declining at the rate of 0.2% per year, and China, whose population could start declining in 2027 or sooner. By 2050, Europe's population is projected to be declining at the rate of 0.3% per year.

Possible consequences of long-term national population decline can be net positive or negative. If a country can increase its workforce productivity faster than its population is declining, the results, both in terms of its economy, the quality-of-life of its citizens, and the environment, can be net positive. If it cannot increase workforce productivity faster than its population's decline, the results can be mostly net negative.

National efforts to confront population decline to-date have been focused on the possible negative economic consequences and have been centered around increasing the size of the nation's workforce and the productivity of its workers.

A reduction over time in a region's population can be caused by sudden adverse events such as outbursts of infectious disease (Coronavirus 2019), famine (Yemen 2016-2021) , and war (siryan civil war 2011-2021) or by long-term trends, for example sub-replacement fertility, persistently low birth rates, high mortality rates, and continued emigration. It's valuable to notice that no one had the idea that using usury (interest) could cause population decline or decay but this effect I deducted from these verses and their equations. In these surahs God talked about population destruction by single event. I think the event happened as the last event in a long destruction process that started by population decay until it reached the minimum number possible then the last destruction event (earthquake, flood…) occurred.

# Chapter III
## ʾAlif-Lām-Mīm-Ṣód ألمص
## Alms-tax/الزكاة
## «ʾAlif-Lām-Mīm-Rā» المر
## Donation/الصدقة

### I- The equation «ʾAlif-Lām-Mīm-Ṣód» المص

The letter combination «ʾAlif-Lām-Mīm-Ṣód» can be transformed to numbers combination (1,23,24,14). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination«ʾAlif-Lām-Mīm-Ṣód» :

1. ʾAlif = Ordinal number 1 in arabic alphabets;
2. Lām = Ordinal number 23 in arabic alphabets;
3. Mīm = Ordinal number 24 in arabic alphabets.
4. Ṣód = Ordinal number 14 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (1) of the combination to the second number (23) then from the second number to the third number (24) to the last number (14).

So «ʾAlif-Lām-Mīm-Ṣód» can be written «1/23/24/14». The arithmetic operations are:

- 1 + 22 = 23.
- 23 + 1 = 24.
- 24 – 10 = 14

The equation will be 22 + 1 – 10 = 13

These letters were the opening of surah Al-Aaraf.

«المص (1) كِتَابٌ أُنزِلَ إِلَيْكَ فَلَا يَكُن فِي صَدْرِكَ حَرَجٌ مِّنْهُ لِتُنذِرَ بِهِ وَذِكْرَىٰ لِلْمُؤْمِنِينَ »(2)

1-"ʾAlif-Lām-Mīm-Ṣód
2- ˹This is˺ a Book sent down to you ˹O Prophet˺—do not let anxiety into your heart regarding it—so with it you may warn ˹the disbelievers˺, and as a reminder to the believers."

The equation $22 + 1 - 10 = 13$ can be transformed to $4^x + 3x - 9 = 13$. Then to $4^x + 3x = 22$ then to $4^x + 3x - 22 = 0$ ( with $x = 2$).

The function here will be $f(x) = 1\times4^x + 3x - 22$ or we can replace f(x) by "y" to become $y = 1\times4^x + 3x - 22$.

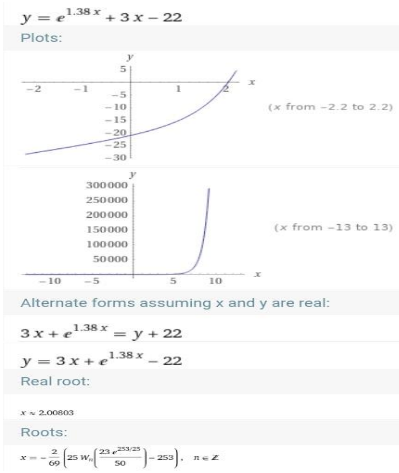
The $1\times4^x$ is like the form $ab^x$ and $ab^x$ is equivalent to $ae^{(\ln b)\,x}$.

My exponential equation :
$f(x) = 1\times4^x + 3x - 22$ would become equivalent to $f(x) = 1\times e^{(\ln 4)\,x} + (3\times x) - 22$.

The function $f(x) = 1\times e^{(\ln 4)\,x} + (3\times x) - 22$ can be written as: $A = A_0e^{(1.38\times x)} + (3\times x) - 22$

Surprisingly this function remind us the same usury growth function $[A = A_0e^{(1.38\times x)} + (3\times x) - 22]$ in the previous chapter of the book about the letters «ʾAlif-Lām-Mīm» without the letter «Ṣód» which is under the form : $A = A_0e^{rt}$.

The graph will be:




If we calculate the function with time t = 2, it means the amount A after 2 units of time will be like this :
$A = A_0e^{rt}$

If the beginning amount $A_0 = 100\$$

- After 2 times units the amount A will be $100e^{(1.38\times2)} + [(3\times2) - 22] = 1563\$$;
- After 3 times units the amount A will be $100e^{(1.38\times3)} + [(3\times3) - 22] = 6267\$$;

- After 4 times units the amount A will be $100e^{(1.38\times4)} + [(3\times4) - 22] = 24953\$$.

This money growth according to this function is exactly the same as usury growth because it is the same function. Can you know what kind of growth is meant by this function in this chapter ?

In surah Al-A'raf the verse 156 says :

156- "Ordain for us what is good in this life and the next. Indeed, we have turned to You ˹in repentance˺." Allah replied, "I will inflict My torment on whoever I will. But My mercy encompasses everything. I will ordain mercy for those who shun evil, pay alms-tax, and believe in Our revelations."
«وَاكْتُبْ لَنَا فِي هَٰذِهِ الدُّنْيَا حَسَنَةً وَفِي الْآخِرَةِ إِنَّا هُدْنَا إِلَيْكَ ۚ قَالَ عَذَابِي أُصِيبُ بِهِ مَنْ أَشَاءُ ۖ وَرَحْمَتِي وَسِعَتْ كُلَّ شَيْءٍ ۚ فَسَأَكْتُبُهَا لِلَّذِينَ يَتَّقُونَ وَيُؤْتُونَ الزَّكَاةَ وَالَّذِينَ هُم بِآيَاتِنَا يُؤْمِنُونَ» (156)

The zakat (alms-tax) is the dynamical system that grows continuously in exponential function and the exponential growth is mentioned in another surah. The verse 39 surah Ar-Rum says:

«وَمَا آتَيْتُم مِّن رِّبًا لِّيَرْبُوَ فِي أَمْوَالِ النَّاسِ فَلَا يَرْبُو عِندَ اللَّهِ ۖ وَمَا آتَيْتُم مِّن زَكَاةٍ تُرِيدُونَ وَجْهَ اللَّهِ فَأُولَٰئِكَ هُمُ الْمُضْعِفُونَ »(39)
39-"Whatever loans you give, –only– seeking interest at the expense of people's wealth will not increase with Allah. But whatever charity you give, –only– seeking the pleasure of Allah—it is they whose reward will be multiplied."

The multiplication in the verse is the exponential growth of what you give as zakat in the wealth of society by increasing the poor people's purchase capacity and their investments.

There are three financial benefits from zakat:

1. Even distribution of wealth in society: Zakat spreads income in society in a balanced way and the flow of money in the society becomes stabilized. Without Zakat, the rich will be getting richer by accumulating more and more wealth while the poor keep getting poorer. With Zakat, the excess wealth of the rich is circulated amongst the poor.
2. Eradication of poverty: Because Zakat is paid out to the poor and needy, it can help eradicate poverty in society. If people pay out Zakat like they are asked to by God, poverty will be eradicated by increasing the poor people's purchase capacity and their investments.
3. Prevent recession: Paying out Zakat is a sure way to stop a recession in an economy. Zakat is an interest free system and thus acts as a buffer for economic fluctuations which otherwise lead to a recession.

We can deduce then that those who practise usury to earn a lot of money can actually practise zakat instead and they will make the same amount of money (the same growth function) without having to suffer from the damage of usury that I will explain later (population decay).

**II- <u>The equation «ʾAlif-Lām-Mīm-Rā» المر</u>**

The letter combination «ʾAlif-Lām-Mīm-Rā» can be transformed to numbers combination (1,23,24,10). Each letter corresponds to its ordinal number in the arabic alphabets.

The letter combination «ʾAlif-Lām-Mīm-Rā» :

1. ʾAlif = Ordinal number 1 in arabic alphabets;
2. Lām = Ordinal number 23 in arabic alphabets;
3. Mīm = Ordinal number 24 in arabic alphabets.
4. Rā = Ordinal number 10 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (1) of the combination to the second number (23) then from the second number to the third number (24) to the last number (10).

So «ʾAlif-Lām-Mīm-Rā» can be written «1-23-24-10». The arithmetic operations are:

- $1 + 22 = 23$.
- $23 + 1 = 24$.
- $24 - 14 = 10$

The equation will be $22 + 1 - 14 = 9$

These letters were the opening of surah Surah Ar-Ra'd.

«المر ۚ تِلْكَ آيَاتُ الْكِتَابِ ۗ وَالَّذِي أُنزِلَ إِلَيْكَ مِن رَّبِّكَ الْحَقُّ وَلَٰكِنَّ أَكْثَرَ النَّاسِ لَا يُؤْمِنُونَ »(1)
1-"Alif-Lãm-Mĩm-Ra. These are the verses of the Book. What has been revealed to you ˹O Prophet˺ from your Lord is the truth, but most people do not believe."

The equation can be transformed to $4^x + 3x - 13 = 9$. Then to $4^x + 3x = 22$ then we can simplify it to $4^x + 3x - 22 = 0$ ( with $x = 2$).

The function here will be $f(x) = 1\times4^x + 3x - 22$ or we can replace f(x) by "y" to become $y = 1\times4^x + 3x - 22$.

The $1\times4^{x}$ is like the form $ab^{x}$ and $ab^{x}$ is equivalent to $ae^{(\ln b)x}$.

My exponential equation :
$y = 1\times4^{x} + 3x - 22$ would become equivalent to $f(x) = 1\times e^{(\ln 4)x} + (3\times x) - 22$. We can write it under general form:
$A= A_0e^{(1.38\times x)} + (3\times x) -22$.

Again astonishing result, this function remind us exactly the same previous zakat growth function: $A = A_0\, e^{(1.38\times x)} + (3\times x) -22$ about the letters «ʾAlif-Lām-Mīm-Ṣód» which is under the form: $A = A_0e^{rt}$ $(A = A_0e^{(1.38\times x)}+(3x) - 22)$.

In surah Ar-Ra'd the verse that talks about the dynamical system growth is verse number 22:

22-"And –they are– those who endure patiently, seeking their Lord's pleasure, establish prayer, donate from what We have provided for them—secretly and openly—and respond to evil with good. It is they who will have the ultimate abode"
«وَالَّذِينَ صَبَرُوا ابْتِغَاءَ وَجْهِ رَبِّهِمْ وَأَقَامُوا الصَّلَاةَ وَأَنفَقُوا مِمَّا رَزَقْنَاهُمْ سِرًّا وَعَلَانِيَةً وَيَدْرَءُونَ بِالْحَسَنَةِ السَّيِّئَةَ أُولَٰئِكَ لَهُمْ عُقْبَى الدَّارِ» (22)

Here the growth is about the optional donation "sadaqa" and it is in the Quran the same growth as the obligatory donation "zakat" growth.

Sadaqa or Sadqa (Arabic: صدقة, Urdu: صدقہ, IPA: [sˤɑdæqɐ],"charity", "benevolence", plural ṣadaqāt صدقات) in the modern context has come to signify "voluntary charity". According to the Quran, the word means voluntary offering, whose amount is at the will of the "benefactor".

'Sadaqa' literally means 'righteousness' and refers to the voluntary giving of alms or charity. In Islamic terminology, sadaqa has been defined as an act of "giving something...without seeking a substitute in return and with the intention of pleasing Allah." Meanwhile, according to Ar-Rageeb al-Asfahaani "Sadaqa is what the person gives from what he possesses, like Zakat, hoping to get closer to Allah."

The term 'sadaqa' stems from the Arabic root word 'sidq' (s-d-q) ص د ق, which means sincerity and it is considered as a sign of sincere faith. The three-letter root of this word, S-D-Q, also means, "to speak the truth," "to be sincere," and "to fulfill one's promise." All of these aspects of honorable behavior indicate the links between generosity and a healthy society. Some modern researchers also try to etymologically link the word sadaqa to the Hebrew צדקה sedāḳā (almsgiving). Some experts hence conclude that sadaqa is a loanword.

Anyone can give sadaqa for any amount. Some of the companions of the Prophet (peace be upon him) were incredibly generous in giving sadaqa, often giving away large portions of their wealth and keeping only enough to meet their needs. A good balance for us may be to divide our wealth between that which we need, savings and sadaqa.

The Prophet (peace be upon him) would give charity throughout the year but increase his sadaqah during Ramadan. Ibn Abbas said, “The Prophet (peace be upon him) was the most generous of people, and he was most generous during Ramadan,” (Hadith, Bukhari).

Examples of sadaqah include:

- To administer justice between two people;
- To remove harm from a road/removing thorns, bones and stones from paths;
- A good word;
- Every step taken towards prayer;
- Guiding the blind;
- Supporting the weak with the strength of your arms...

There are many types of sadaqat. But I think that the function is about the continuously growing donation «sadaqa jariya». Sadaqa jariya is an important concept within Islam. The Prophet (peace be upon him) said:

“When a person dies, all their deeds end except three: a continuing charity, beneficial knowledge and a child who prays for them,” (Hadith, Muslim).
عَنْ أَبِي هُرَيْرَةَ رضي الله تعالى عنه: أَنَّ رَسُولَ اللَّهِ ﷺ قَالَ: «إِذَا مَاتَ ابنُ آدم انْقَطَعَ عَنْهُ عَمَلُهُ إِلَّا مِنْ ثَلَاثٍ: صَدَقَةٍ جَارِيَةٍ، أو عِلْمٍ يُنْتَفَعُ بِهِ، أَوْ وَلَدٍ صَالِحٍ يَدْعُو لَهُ». رَوَاهُ مُسْلِمٌ.

Therefore, Muslims are eager to give charity which will continue to have benefit to people after their death and continue to earn them reward.

Any charity which continues to have positive effects on a community in the long-term can be considered a sadaqa jariya. Some examples include:

- Building homes, schools and hospitals;
- Installing durable water systems;
- Cultivating crops which provides food for years to come;
- Helping a family start a business which continues generating profit for future generations;

Essentially, sadaqa jariya is what today's international development sector calls 'sustainable development.' Promoted by Islam over 1400 years ago, sadaka jariya encompasses the majority of sustainable development programmes carried out by NGOs today.

You probably notice that bizarrely usury, zakat and donation go through the same growth function. Do we still need usury riba to earn money ? Definitely not because we have another fruitful dynamical donation and zakat systems.

# Chapter IV
# ʾAlif Lām Rā الر
# (Provision/رزق)

## I- The equation

The letters combination «ʾAlif-Lām-Rā» can be transformed to numbers combination (1,23,10). Each letter corresponds to its ordinal number in the arabic alphabets.

The letter combination «ʾAlif-Lām-Rā» :

1. ʾAlif = Ordinal number 1 in arabic alphabets;
2. Lām = Ordinal number 23 in arabic alphabets;
3. Rā = Ordinal number 10 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (1) of the combination to the second number (23) then from the second number to the third number (10).

So «ʾAlif-Lām-Rā» can be written «1/23/10». The arithmetic operations are:

- $1 + 22 = 23$.
- $23 - 13 = 10$.

The equation will be $22 - 13 = 9$

These letters were the opening of 5 surahs as follow:

1. **Yunus**

1-"ʾAlif-Lām-Rā. These are the verses of the Book, rich in wisdom."

«الر ۚ تِلْكَ آيَاتُ الْكِتَابِ الْحَكِيمِ» (1)

2. **Hud**

1-"ʾAlif-Lām-Rā. ˹This is˺ a Book whose verses are well perfected and then fully explained. ˹It is˺ from the One ˹Who is˺ All-Wise, All-Aware."

«الر ۚ كِتَابٌ أُحْكِمَتْ آيَاتُهُ ثُمَّ فُصِّلَتْ مِن لَّدُنْ حَكِيمٍ خَبِيرٍ »(1)

### 3. Yusuf

1-"ʾAlif-Lām-Rā. These are the verses of the clear Book."

«الر ۚ تِلْكَ آيَاتُ الْكِتَابِ الْمُبِينِ» (1)

### 4. Ibrahim

1-"ʾAlif-Lām-Rā. ˹This is˺ a Book which We have revealed to you ˹O Prophet˺ so that you may lead people out of darkness and into light, by the Will of their Lord, to the Path of the Almighty, the Praiseworthy."

«الر ۚ كِتَابٌ أَنزَلْنَاهُ إِلَيْكَ لِتُخْرِجَ النَّاسَ مِنَ الظُّلُمَاتِ إِلَى النُّورِ بِإِذْنِ رَبِّهِمْ إِلَىٰ صِرَاطِ الْعَزِيزِ الْحَمِيدِ» (1)

### 5. Al-Hijr

1-"ʾAlif-Lām-Rā. These are the verses of the Book; the clear Quran."

«الر ۚ تِلْكَ آيَاتُ الْكِتَابِ وَقُرْآنٍ مُّبِينٍ» (1)

The equation $22 - 13 = 9$ can be transformed to
$[4^x + 3x] - 13 = 9$. Then to $4^x + 3x = 22$ then to $4^x + 3x - 22 = 0$ ( with $x = 2$).

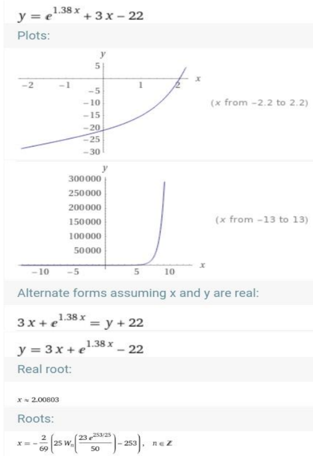
The function here will be $f(x) = 1\times4^x + 3x - 22$ or we can replace f(x) by "y" to become $y = 1\times4^x + 3x - 22$ like the form $y = ab^x + cx - 22$.

$y = ab^x$ is equivalent to $y = ae^{(\ln b)x}$.
My exponential equation :
$y = 1\times4^x + 3x - 22$ would become equivalent to $f(x) = 1\times e^{(\ln 4)x} + (3\times x) - 22$.

This function, strangely, remind us the previous zakat growth function about the letters «ʾAlif-Lām-Mīm-Ṣód» and the sadaqa growth function about the letters «ʾAlif-Lām-Mīm-Rā» which are both under the form : $A = A_0e^{rt}$

in this current chapter «ʾAlif-Lām-Rā» has a function:
$f(x) = 1e^{(1.38\times2)} + (3\times2) - 22$ under general form $A = A_0e^{(1.38\times x)} + (3x) - 22$

With graph




Then what is the dynamical system that this function is talking about in the 5 surahs? If you read these 5 surahs carefully you will notice one notion that keeps being repeated as a common point in all of them, it is the notion of provision.

The verse 6 surah hud is evoking the general idea of all creatures' provisions:

«وَمَا مِن دَابَّةٍ فِي الْأَرْضِ إِلَّا عَلَى اللَّهِ رِزْقُهَا وَيَعْلَمُ مُسْتَقَرَّهَا وَمُسْتَوْدَعَهَا ۚ كُلٌّ فِي كِتَابٍ مُّبِينٍ »(6)

6-«There is no moving creature on earth whose provision is not guaranteed by Allah. And He knows where it lives and where it is laid to rest. All is ˹written˺ in a perfect Record.»

The verse 31 surah yunus is evoking the idea of specifically human's provision:

"قُلْ مَن يَرْزُقُكُم مِّنَ السَّمَاءِ وَالْأَرْضِ أَمَّن يَمْلِكُ السَّمْعَ وَالْأَبْصَارَ وَمَن يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَيُخْرِجُ الْمَيِّتَ مِنَ الْحَيِّ وَمَن يُدَبِّرُ الْأَمْرَ ۚ فَسَيَقُولُونَ اللَّهُ ۚ فَقُلْ أَفَلَا تَتَّقُونَ" (31)

31-"Ask ˹them, O  Prophet˺, “Who provides for you from heaven and earth? Who owns ˹your˺ hearing and sight? Who brings forth the living from the dead and the dead from the living? And who conducts every affair?” They will ˹surely˺ say, “Allah.” Say, “Will you not then fear ˹Him˺?"

Then comes the verse 37 surah yusuf:

"قَالَ لَا يَأْتِيكُمَا طَعَامٌ تُرْزَقَانِهِ إِلَّا نَبَّأْتُكُمَا بِتَأْوِيلِهِ قَبْلَ أَن يَأْتِيَكُمَا ۚ ذَٰلِكُمَا مِمَّا عَلَّمَنِي رَبِّي ۚ إِنِّي تَرَكْتُ مِلَّةَ قَوْمٍ لَّا يُؤْمِنُونَ بِاللَّهِ وَهُم بِالْآخِرَةِ هُمْ كَافِرُونَ" (37)

37-"Joseph replied, “I can even tell you what kind of meal you will be provided before you receive it. This ˹knowledge˺ is from what my Lord has taught me. I have shunned the faith of a people who disbelieve in Allah and deny the Hereafter."

Then verses 31, 32 and 37 surah Ibrahim:

"قُل لِّعِبَادِيَ الَّذِينَ آمَنُوا يُقِيمُوا الصَّلَاةَ وَيُنفِقُوا مِمَّا رَزَقْنَاهُمْ سِرًّا وَعَلَانِيَةً مِّن قَبْلِ أَن يَأْتِيَ يَوْمٌ لَّا بَيْعٌ فِيهِ وَلَا خِلَالٌ"(31) اللَّهُ
الَّذِي خَلَقَ السَّمَاوَاتِ وَالْأَرْضَ وَأَنزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجَ بِهِ مِنَ الثَّمَرَاتِ رِزْقًا لَّكُمْ ۖ وَسَخَّرَ لَكُمُ الْفُلْكَ لِتَجْرِيَ فِي الْبَحْرِ بِأَمْرِهِ ۖ
وَسَخَّرَ لَكُمُ الْأَنْهَارَ (32).

31-"Tell My believing servants to establish prayer and donate from what We have provided for them—openly and secretly—before the arrival of a Day in which there will be no ransom or friendly connections."

32-"It is Allah Who created the heavens and the earth and sends down rain from the sky, causing fruits to grow as a provision for you. He has subjected the ships for your service, sailing through the sea by His command, and has subjected the rivers for you."

"رَّبَّنَا إِنِّي أَسْكَنتُ مِن ذُرِّيَّتِي بِوَادٍ غَيْرِ ذِي زَرْعٍ عِندَ بَيْتِكَ الْمُحَرَّمِ رَبَّنَا لِيُقِيمُوا الصَّلَاةَ فَاجْعَلْ أَفْئِدَةً مِّنَ النَّاسِ تَهْوِي إِلَيْهِمْ
وَارْزُقْهُم مِّنَ الثَّمَرَاتِ لَعَلَّهُمْ يَشْكُرُونَ" (37)

37-"Our Lord! I have settled some of my offspring in a barren valley, near Your Sacred House, our Lord, so that they may establish prayer. So make the hearts of ˹believing˺ people incline towards them and provide them with fruits, so perhaps they will be thankful."

Then comes the verses 19-22 surah Al-Hijr

"وَالْأَرْضَ مَدَدْنَاهَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنبَتْنَا فِيهَا مِن كُلِّ شَيْءٍ مَّوْزُونٍ (19) وَجَعَلْنَا لَكُمْ فِيهَا مَعَايِشَ وَمَن لَّسْتُمْ لَهُ بِرَازِقِينَ
(20) وَإِن مِّن شَيْءٍ إِلَّا عِندَنَا خَزَائِنُهُ وَمَا نُنَزِّلُهُ إِلَّا بِقَدَرٍ مَّعْلُومٍ (21) وَأَرْسَلْنَا الرِّيَاحَ لَوَاقِحَ فَأَنزَلْنَا مِنَ السَّمَاءِ مَاءً فَأَسْقَيْنَاكُمُوهُ
وَمَا أَنتُمْ لَهُ بِخَازِنِينَ"(22)

19-"As for the earth, We spread it out and placed upon it firm mountains, and caused everything to grow there in perfect balance.

20-And We made in it means of sustenance for you and others, who you do not provide for.

21-There is not any means ˹of sustenance˺ whose reserves We do not hold, only bringing it forth in precise measure.

22-We send fertilizing winds, and bring down rain from the sky for you to drink. It is not you who hold its reserves."

The provision is mentioned in all these surahs. One of the 99 Names of Allah is Ar-Razzaq (الرَّزَّاقُ) meaning The Total Provider / The Sustainer. Allah is the One who provides everything we need to live in this world. These are called "Rizq" generally meaning Provisions.

## II- The interpretation

### 1- The provision's growth factors

Here are the 12 ways to increase your provision " Rizq":

### $1_A$- Tawba (repentance) from sins

In verses 10-12 surah nuh it state:

"فَقُلْتُ اسْتَغْفِرُوا رَبَّكُمْ إِنَّهُ كَانَ غَفَّارًا(10)يُرْسِلِ السَّمَاءَ عَلَيْكُم مِّدْرَارًا (11) وَيُمْدِدْكُم بِأَمْوَالٍ وَبَنِينَ وَيَجْعَل لَّكُمْ جَنَّاتٍ وَيَجْعَل لَّكُمْ أَنْهَارًا (12)

10-"Ask forgiveness from your Lord, verily, He is Often Forgiving;
11-He will send rain to you in abundance.
12-And give you increase in wealth and children, and bestow on you gardens and bestow on you rivers."

### $1_B$ - Taqwa ( God-consciousness, piety)

The verses 2-3 surah At-Talaq state:

"فَإِذَا بَلَغْنَ أَجَلَهُنَّ فَأَمْسِكُوهُنَّ بِمَعْرُوفٍ أَوْ فَارِقُوهُنَّ بِمَعْرُوفٍ وَأَشْهِدُوا ذَوَيْ عَدْلٍ مِّنكُمْ وَأَقِيمُوا الشَّهَادَةَ لِلَّهِ ۚ ذَٰلِكُمْ يُوعَظُ بِهِ مَن كَانَ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الْآخِرِ ۚ وَمَن يَتَّقِ اللَّهَ يَجْعَل لَّهُ مَخْرَجًا (2) وَيَرْزُقْهُ مِنْ حَيْثُ لَا يَحْتَسِبُ ۚ وَمَن يَتَوَكَّلْ عَلَى اللَّهِ فَهُوَ حَسْبُهُ ۚ إِنَّ اللَّهَ بَالِغُ أَمْرِهِ ۚ قَدْ جَعَلَ اللَّهُ لِكُلِّ شَيْءٍ قَدْرًا" (3)

2-"…And whosoever fears Allah and keeps his duty to Him, He will make a way for him to get out (from every difficulty).
3-And He will provide for him from (sources) where he does not expect…"

### $1_C$ - Keeping ties of kinship

عَنْ أَبِي هُرَيْرَةَ قَالَ: قَالَ رَسُولُ اللَّهِ ﷺ: «مَنْ أَحَبَّ أَنْ يُبْسَطَ له فِي رِزْقِهِ، وأَنْ يُنْسَأَ لَهُ فِي أَثَرِهِ, فَلْيَصِلْ رَحِمَهُ.» أَخْرَجَهُ الْبُخَارِيُّ.

Abu Hurayrah (may Allah be pleased with him) narrated that he heard The Prophet (peace and blessings of Allah be upon him) said: "Whoever would like his provision to be abundant and his lifespan to be extended, let him uphold his ties of kinship." [Bukhari & Muslim]

### $1_D$ - Sadaqa (giving charity)

Verse 39 surah As-Saba states:

"قُلْ إِنَّ رَبِّي يَبْسُطُ الرِّزْقَ لِمَن يَشَاءُ مِنْ عِبَادِهِ وَيَقْدِرُ لَهُ ۚ وَمَا أَنفَقْتُم مِّن شَيْءٍ فَهُوَ يُخْلِفُهُ ۖ وَهُوَ خَيْرُ الرَّازِقِينَ" (39)

39-"Say: "Truly, my Lord enlarges the provision for whom He wills of His slaves, and (also) restricts (it) for him, and whatsoever you spend of anything (in Allah's Cause), He will compensate it. And He is the Best of providers."

And verse 261 surah Al-Baqarah states

"مَّثَلُ الَّذِينَ يُنفِقُونَ أَمْوَالَهُمْ فِي سَبِيلِ اللَّهِ كَمَثَلِ حَبَّةٍ أَنبَتَتْ سَبْعَ سَنَابِلَ فِي كُلِّ سُنبُلَةٍ مِّائَةُ حَبَّةٍ ۗ وَاللَّهُ يُضَاعِفُ لِمَن يَشَاءُ ۗ وَاللَّهُ وَاسِعٌ عَلِيمٌ" (261)

261-"The likeness of those who spend their wealth in the Way of Allah, is as the likeness of a grain (of corn); it grows seven ears, and each ear has a hundred grains.And Allah multiplies [His reward] for whom He wills. And Allah is All-Sufficient for His creatures' needs, All-Knower."

**1E - 'Ibaadah (worship)**

Abu Huraira reported: The Prophet, peace and blessings be upon him, said, "Allah Almighty said: O son of Adam, busy yourself with my worship and I will fill your heart with riches and alleviate your poverty. If you do not do so, I will fill your hands with problems and never alleviate your poverty."

Source: Sunan al-Tirmidhī 2466
Grade: Sahih (authentic) according to Al-Albani.

عَنْ أَبِي هُرَيْرَةَ عَنْ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ :« إِنَّ اللَّهَ تَعَالَى يَقُولُ يَا ابْنَ آدَمَ تَفَرَّغْ لِعِبَادَتِي أَمْلَأْ صَدْرَكَ غِنًى وَأَسُدَّ فَقْرَكَ وَإِلَّا تَفْعَلْ مَلَأْتُ يَدَيْكَ شُغْلًا وَلَمْ أَسُدَّ فَقْرَكَ».

**1F - Doing hajj and 'umrah**

عن عبد الله بن مسعود رضي الله عنه قال: قال رسول الله صلى الله عليه وسلم: « تَابِعُوا بَيْنَ الْحَجِّ وَالْعُمْرَةِ، فَإِنَّهُمَا يَنْفِيَانِ الْفَقْرَ وَالذُّنُوبَ، كَمَا يَنْفِي الْكِيرُ خَبَثَ الْحَدِيدِ وَالذَّهَبِ وَالْفِضَّةِ، وَلَيْسَ لِلْحَجَّةِ الْمَبْرُورَةِ ثَوَابٌ إِلَّا الْجَنَّةُ» رواه التّرمذي والنّسائي، وصححه ابن خزيمة وابن حبّان، وقال التّرمذي: حديث حسن صحيح.

'Abdullah Ibn Mas'ood (may Allah be pleased with him) narrated that the Prophet (may the peace and blessings of Allah be upon him) said, "Perform Hajj and 'Umrah consecutively. Verily, the succession between the two (rituals) takes away poverty and takes away sins just as the bellows takes away the dross of iron and gold and silver. And a Hajj not mingled with a sin has no reward except paradise."
[Musnad Imam Ahmad, Tirmidhi 810, Nasa'i 2360 & 2361, Ibn Majah 2887. Authenticated in As-Saheehah 1200.]

**$1_G$ - Tawakkul ( reliance upon God alone)**

عَنْ عُمَرَ بن الخَطَّابِ رَضِيَ اللَّهُ عَنْهُ أَنَّ رَسُوْلَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ: «لَوْ أَنَّكُمْ تَوَكَّلْتُمْ عَلَى اللَّهِ حَقَّ تَوَكُّلِهِ لَرَزَقَكُمْ كَمَا يَرْزُقُ الطَّيْرَ، تَغْدُوا خِمَاصاً وَتَرُوْحُ بِطَاناً» (رَوَاهُ الإِمَامُ أَحْمَدُ فِي المُسْنَدِ، وَالتِّرْمِذِيُّ وَالنَّسَائِيُّ وَابْنُ مَاجَهْ فِي السُّنَنِ، وَابْنُ حِبَّانَ فِي صَحِيْحِهِ، وَرَوَاهُ الحَاكِمُ فِي مُسْتَدْرَكِهِ وَصَحَّحَهُ

ʿUmar Ibn Al-Khattab (may Allah be pleased with him) narrated that he heard the Prophet (may the peace and blessings of Allah be upon him) say, "If you would trust in Allah as He truly should be trusted, He would surely provide for you as He provides for the birds. They set out in the morning with empty stomachs and return in the evening with full stomachs."
[Musnad Imam Ahmad, Ibn Majah 4164, Tirmidhi 2344. Authenticated in As-Saheehah 310.]

**$1_H$ - An-nikah (marriage)**

The verse 32 surah An-Noor states:

"وَأَنكِحُوا الْأَيَامَىٰ مِنكُمْ وَالصَّالِحِينَ مِنْ عِبَادِكُمْ وَإِمَائِكُمْ ۚ إِن يَكُونُوا فُقَرَاءَ يُغْنِهِمُ اللَّهُ مِن فَضْلِهِ ۗ وَاللَّهُ وَاسِعٌ عَلِيمٌ" (32)

32- "And marry off the unmarried among you and the righteous among your male slaves and female slaves. If they should be poor, Allah will enrich them from His bounty, and Allah is all-Encompassing and Knowing."

**$1_I$ - Dua (supplication)**

عَنْ أُمِّ سَلَمَةَ رَضِيَ اللَّهُ عَنْها: أَنَّ النَّبِيَّ ﷺ كَانَ يَقُولُ إِذَا صَلَّى الصُّبْحَ حِينَ يُسَلِّمُ: «اللَّهُمَّ إِنِّي أَسْأَلُكَ عِلْمًا نَافِعًا، وَرِزْقًا طَيِّبًا، وَعَمَلًا مُتَقَبَّلًا» رَوَاهُ أَحْمَدُ، وَابْنُ مَاجَهْ.

Umm Salamah (may Allah be pleased with her) narrated that the Prophet (may the peace and blessings of Allah be upon him) used to say, when he would pray the Morning Prayer, after making the taslim [saying Asalaamu Alaykum Wa Rahmahtullah to the right and then to the left] he would say, "O Allah, I ask You for knowledge which is beneficial and sustenance which is good, and deeds which are acceptable."
[Ibn Majah 926, 3843]

**$1_J$ - Gratitude and praising God**

The verse 7 surah Ibrahim states :

"وَإِذْ تَأَذَّنَ رَبُّكُمْ لَئِن شَكَرْتُمْ لَأَزِيدَنَّكُمْ ۖ وَلَئِن كَفَرْتُمْ إِنَّ عَذَابِي لَشَدِيدٌ"(7)

7-"And [remember] when your Lord proclaimed, 'If you are grateful, I will surely increase you [in favour]; but if you show ingratitude, indeed, My punishment is severe."

**$1_K$ - Honesty and fairness in trade and business transactions**

حَدَّثَنَا مُحَمَّدُ بْنُ الْمُثَنَّى، حَدَّثَنَا يَحْيَى بْنُ سَعِيدٍ، عَنْ شُعْبَةَ، ح وَحَدَّثَنَا عَمْرُو بْنُ، عَلِيٍّ حَدَّثَنَا يَحْيَى بْنُ سَعِيدٍ، وَعَبْدُ الرَّحْمَنِ بْنُ مَهْدِيٍّ، قَالاَ حَدَّثَنَا شُعْبَةُ، عَنْ قَتَادَةَ، عَنْ أَبِي الْخَلِيلِ، عَنْ عَبْدِ اللَّهِ بْنِ الْحَارِثِ، عَنْ حَكِيمِ بْنِ حِزَامٍ، عَنِ النَّبِيِّ صلى الله عليه وسلم قَالَ: " الْبَيِّعَانِ بِالْخِيَارِ مَا لَمْ يَتَفَرَّقَا فَإِنْ صَدَقَا وَبَيَّنَا بُورِكَ لَهُمَا فِي بَيْعِهِمَا وَإِنْ كَذَبَا وَكَتَمَا مُحِقَتْ بَرَكَةُ بَيْعِهِمَا " .

Ḥakim ibn Ḥazim (may Allah be pleased with him) narrated that the Prophet (may the peace and blessings of Allah be upon him) said, " The two parties of a transaction have the right (to annul the contract) as long as they do not separate (from each other). So, if they were truthful (to one another), and honest in explaining (the defects of an item), then they will be blessed in their transaction. But, if they lied, and hid (the defects of an item) then the blessings of their transaction are destroyed."
[Muslim Book 10:3661]

**$1_L$ - Having children**

The verse 31 surah Al-Israa states:

"وَلَا تَقْتُلُوا أَوْلَادَكُمْ خَشْيَةَ إِمْلَاقٍ ۖ نَحْنُ نَرْزُقُهُمْ وَإِيَّاكُمْ ۚ إِنَّ قَتْلَهُمْ كَانَ خِطْئًا كَبِيرًا "(31)

31-"And do not kill your children for fear of poverty. We (Allah) provide for them and for you. Indeed, the killing of them is a great sin."

The provision is a dynamical system that if one of the above cause is realised can make it growing according to the growth function:

$A = A_0e^{(1.38\times x)} + (3x) - 22$

**2- The money growth time factor**

Now one may ask that according to our experience and observation of our current world, the populations' number of modern society are not decreasing with the same function we deduced from the Quran. Despite that modern societies are having their populations growing rate decreasing but not as the function describes it and here the table showing the different rates. Moreover, the zakat, sadaqa and rizk are all not growing in many islamic societies as the function describes it. This has been said, the quranic function seems to be not realistic.

The function that I deduced from the quran has a theoretical time unit undefined in the Quran. The time in the function is represented by the exponent x or we can call it t. Our x in the function initially was number 2. It means that the growth has a rate of 1.38 every time we add 1 time unit ( could be 1 day or 1 week or 1 year. So we write my function as follow :

- In the first time unit :
  $A= A_0e^{(1.38\times 1)}+(3\times 1)-22$
- In second time unit :
  $A=A_0e^{(1.38\times 2)}+(3\times 2)-22$ (This is the original function I deduced from the verses)
- In third time unit :
  $A=A_0e^{(1.38\times 3)}+(3\times 3)-22$

Actually the quran does not precise the time unit what it is, it does not define it. Is it the second day, week, month or year or longer or shorter? If we apply the time unit year we will end with some large decay quantities in populations, and growth in interest, zakat, sadaqa and rizq. These quantities are not realistic.

My only logical interpretation of the time unit undefined in the quran is that it could be 100 years (one century) or 1000 years. It means the growth rate 1.38 is calculated on the base of 100 or 1000 years.

**$2_A$ - In case of 100 years time unit**

If the time unit expressed in the Quran is 100 years, to have the yearly growth rate we need to convert the function to yearly growth rate function by dividing the rate 1.38 (138%)÷100 = 0.0138 (1.38%). So our growth rate becomes 1.38% each year or in decimal 0.0138.

**Function in 100 years is :**

$$A=A_0e^{(1.38\times x)}+(3\times x)-22$$

**But will be in 1 year**

$$A=A_0e^{(0.0138\times x)}+\frac{(3\times x)-22}{100}$$

So, the x which means time (t) unit is 1 year. And every time we add 1 time unit it means we add 1 year. To calculate the growth quantity after 2 years we plot number 2 in x and to calculate the quantity after 3 years we plot the number 3 in x etc...as follow:

- In the first year :
  $$A=A_0e^{(0.0138\times 1)}+\frac{(3\times 1)-22}{100}$$

- In second year :
  $$A=A_0e^{(0.0138\times 2)}+\frac{(3\times 2)-22}{100}$$
- In third year :
  $$A=A_0e^{(0.0138\times 3)}+\frac{(3\times 3)-22}{100}$$

Let's now take an example to see if my function works realistically:

Imagine you give 1$ ($A_0$) as sadaqah or zakat or you spend it to make a project for rizq, what will it become after 1 year ?

$$A=1e^{(0.0138\times 1)}+\frac{(3\times 1)-22}{100}$$
$$A = 1e^{(0.0138\times 1)} – 0,19$$
$$A = 1.01389565952732 – 0,19$$
$$A = 0.82389565952732$$

So the quantity after 1 year diminishes from 1 to 0.82.

What will it become after 2 years ?

$$A=1e^{(0.0138\times 2)}+\frac{(3\times 2)-22}{100}$$
$$A= 1.02798440840834 – 0,16$$
$$A = 0.87599052877927$$

What will it become after 3 years ?

$$A=1e^{(0.0138\times 3)}+\frac{(3\times 3)-22}{100}$$
$$A= 1.04226892974698 – 0,13$$
$$A = 0.91226892974698\$$$

What will it become after 4 years ?

$$A=1e^{(0.0138\times 4)}+\frac{(3\times 4)-22}{100}$$
$$A= 1.05675194393065 – 0,10$$
$$A = 0.95675194393065\$$$

What will it become after 5 years ?

$$A = 1e^{(0.0138\times5)} + \frac{(3\times5)-22}{100}$$

A= 1.07143620914835 – 0,07

A = 1.00143620914835$

The quantity increased from the first year 0.82389565952732 to the second year 0.87599052877927$ then to the third year 0.91226892974698 then in the fourth year to 0.95675194393065$ and in the fifth year it exceeds the 1$ that you gave away and became 1.00143620914835$.

According to my calculation the 1$ won't make money until the fifth year. This applies also to zakat, sadaqa and rizq in the sense that every dollar you spend in these fields will show a decrease in the first five years then you start to earn or the benefitted persons or societies starts to earn from that money.

Let's increase the amount of sadaqa, zakat or rizq "$A_0$" to 10$ and see at what year the amount grows.

The first year the outcome will be:

$$A = 10e^{(0.0138\times1)} + \frac{(3\times1)-22}{100}$$

$A = 10e^{(0.0138\times1)} - 0{,}19$

A = 10.1389565952732 – 0,19

A = 9.9489565952732$

The second year the outcome will be:

$$A = 10e^{(0.0138\times2)} + \frac{(3\times2)-22}{100}$$

$A = 10e^{(0.0138\times2)} - 0{,}16$

A = 10.2798440840834 – 0,16

A = 10.1198440840834$

The increase is from 10$ to 10.1198440840834$ with 0,1198440840834$ difference realised in the second (2) year.

But if we increase the amount "$A_0$" of zakat, sadaqa or rizq to $A_0 \geq 14\$$, and it will start to grow from the first year as follow:

$$A=14e^{(0.0138\times 1)}+\frac{(3\times 1)-22}{100}$$

$$A = 14e^{(0.0138\times 1)} - 0{,}19$$

$$A = 14.1945392333825 - 0{,}19$$

$$A = 14.0045392333825\$$$

The increase is from 14$ to 14.0045392333825$ with 0.0045392333825$ difference that is produced at the first (1) year.

So the conclusion is that the bigger amount you invest for sadaqah or zakat or rizq the faster you get the benefit.

**$2_B$ - In case of 1000 years time unit,**

If the time unit expressed in the Quran is 1000 years, to have the yearly growth rate we need to convert the function to yearly growth rate function by dividing the rate 1.38 (138%)÷1000 = 0.00138 (0.138%). So our growth rate becomes 0.138% each year or in decimal 0.00138.

**Function in 1000 years is :**

$$A=A_0e^{(1.38\times x)}+(3\times x)-22$$

**But will be in 1 year**

1 year time unit rate will be:

$$A=A_0e^{(0.00138\times x)}+\frac{(3\times x)-22}{1000}$$

Let's now try the same example to see if my function works realistically with 1000 years interpretation:

Imagine you give 1$ ($A_0$) as sadaqah or zakat or you spend it to make a project for rizq, what will it become after 1 year ?

$$A=1e^{(0.00138\times 1)}+\frac{(3\times 1)-22}{1000}$$

$$A = 1e^{(0.00138\times 1)} - 0{,}019$$

A = 1.00138095263816 −0,019

A = 0.98238095263816

So the quantity after 1 year diminishes from 1 to 0.98238095263816.

What will it become after 2 years ?

$$A=1e^{(0.00138\times 2)}+\frac{(3\times 2)-22}{1000}$$

A= 1.00276381230652 – 0,016

A = 0.98676381230652

What will it become after 3 years ?

$$A=1e^{(0.00138\times 3)}+\frac{(3\times 3)-22}{1000}$$

A= 1.00414858163857 – 0,013

A = 0.99114858163857

What will it become after 4 years ?

$$A=1e^{(0.00138\times 4)}+\frac{(3\times 4)-22}{1000}$$

A= 1.0055352632715 – 0,010

A = 0.9955352632715

What will it become after 5 years ?

$$A=1e^{(0.00138\times 5)}+\frac{(3\times 5)-22}{1000}$$

A= 1.00692385984608 – 0,007

A = 0.99992385984608

What will it become after 6 years ?

$$A=1e^{(0.00138\times 6)}+\frac{(3\times 6)-22}{1000}$$

A= 1.00831437400676 – 0,004

A = 1.00431437400676

The quantity increased from the first year 0.98238095263816 to the second year 0.98676381230652 then to the third year 0.99114858163857 then in the fourth year to 0.9955352632715 and in the fifth year to 0.99992385984608, finally in the sixth year it exceeds the 1$ that you gave away and became 1.00431437400676.

Let's increase the amount of sadaqa, zakat or risq "$A_0$" to 2$ and see at what year the amount grows.

The 1st year the outcome will be:

$$A=2e^{(0.00138\times1)}+\frac{(3\times1)-22}{1000}$$

$$A = 2e^{(0.00138\times1)} - 0,019$$

$$A = 2.00276190527633 - 0,019$$

$$A = 1.98376190527633\$$$

The 2nd year the outcome will be:

$$A=2e^{(0.00138\times2)}+\frac{(3\times2)-22}{1000}$$

$$A = 2e^{(0.00138\times2)} - 0,016$$

$$A = 2.00552762461303 - 0,016$$

$$A = 1.98952762461303\$$$

The 3rd year the outcome will be:

$$A=2e^{(0.00138\times3)}+\frac{(3\times3)-22}{1000}$$

$$A = 2e^{(0.00138\times3)} - 0,013$$

$$A = 2.00829716327715 - 0,013$$

$$A = 1.99529716327715\$$$

The 4th year the outcome will be:

$$A=2e^{(0.00138\times4)}+\frac{(3\times4)-22}{1000}$$

$$A = 2e^{(0.00138\times4)} - 0,010$$

$$A = 2.01107052654299 - 0,010$$

$$A = 2.00107052654299\$$$

The quantity increased from the 1st year 1.98376190527633 to the 2nd year 1.98952762461303 then to the 3rd year 1.99529716327715 , finally in the 4th year it exceeds the 2$ that you gave away and became 2.00107052654299$.

But if we increase the amount "$A_0$" of zakat, sadaqa or rizq to $A_0 \geq 14$\$, it will start to grow from the first year as follow:

$$A = 14e^{(0.00138\times 1)} + \frac{(3\times 1) - 22}{1000}$$

$$A = 14e^{(0.00138\times 1)} - 0{,}019$$

$$A = 14.0193333369343 - 0{,}019$$

$$A = 14.0003333369343\$$$

The increase from 14$ to 14.0003333369343$ with 0.0003333369343$ difference is produced at the first (1) year.

We notice in general there is no big difference between yearly growth based on 100 year or based on 1000 year.

**3- The usury growth and population decay time factor**

The last issue we have to address is the population growth. In the beginning in chapter II when I linked my function to population, I mentioned that my function is about population decay and not growth. The population that uses usury in its financial transactions tends to decrease.

Let's go back to the original function and test it. Remember in chapter II we arrived to these two functions:

1. Usury growth function with time unit 100 or 1000 years is:

$e^{(1.38\times x)}+(3x) -22$

2. Then the population decay function with time unit 100 or 1000 years is:

$e^{(-1.38\times x)}-(3x) -22$

**$3_A$ - In case of 100 years time unit**

Let's convert them from 100 years growth rate 1.38 to 1 year growth or decay rate as we did with the zakat, sadaqah and rizq function previously.

- Usury growth rate $e^{(1.38\times x)}+[(3x)-22]$ becomes $e^{(0.0138\times x)}+\frac{(3x)-22}{100}$
- Population decay rate $e^{(-1.38\times x)}-[(3x)-22]$ becomes $e^{(-0.0138\times x)}-\frac{(3x)-22}{100}$

Let's now take an example.

If a country uses the usury rate of 1.38% (0.0138 in decimals) $+\frac{(3x)-22}{100}$, its population will decrease by the rate of -1.38% (-0.0138) $-\frac{(3x)-22}{100}$.

Let's use the same apes' example of 1000 apes, if they use in their society an average of usury growth of 1.38% after every year how many apes remain.

**1st year**

- **Usury growth**

The amount $A_0$ lended by the bank is 1000\$. After one year the amount obtained A to be paid back to the bank is:

$$A = A_0 e^{(0.0138\times x)}+\frac{(3x)-22}{100}$$

$$A = 1000e^{(0.0138\times 1)}+\frac{(3\times 1)-22}{100}$$

$$A = 1013.89565952732 + (-0.19)$$

$$A = 1013.70565952732\$$$

The 1000\$ increased by 13.70565952732\$ the first year to 1013.70565952732\$**.**

- **Population decay**

The number of apes (1000 apes) $A_0$. After one year of using that usury rate in their society, their number obtained A is:

$$A = A_0 e^{(-0.0138\times x)} - \frac{(3x)-22}{100}$$

$A = 1000e^{(-0.0138\times 1)} - \frac{(3\times 1) - 22}{100}$

$A = 986.29478349498 - (-0.19)$

$A = 986.48478349498$ apes

The apes number decreased by -13.61521650502 apes the first year from 1000 apes to 986.38478349498 apes

**$2^{nd}$ year**

- **Usury growth**

The amount $A_0$ given by the bank is 1000$. After 2 years the amount obtained A to be paid back is:

$A = A_0e^{(0.0138\times x)} + \frac{(3x) - 22}{100}$

$A = 1000e^{(0.0138\times 2)} + \frac{(3\times 2) - 22}{100}$

$A = 1027.98440840834\$ - 0.16$

$A = 1027.82440840834\$$

The 1000$ increased the first year to 1013.70565952732 by 13.70565952732$ then the second year to 1027.82440840834$ by 14.11874888102$.

- **Population decay**

The number of apes (1000 apes) $A_0$. After one year of using that interest rate in their society, their number obtained A is:

$A = A_0e^{(-0.0138\times x)} - \frac{(3x) - 22}{100}$

$A = 1000e^{(-0.0138\times 2)} - \frac{(3\times 2) - 22}{100}$

$A = 972.77739994941 - (-0.16)$

$A = 972.93739994941$ apes

The apes' number decreased by -13.44738354557 apes the second year from 986.38478349498 apes to 972.93739994941 apes.

**$3_B$ - In case of 1000 years time unit**

Let's convert them from 1000 years growth rate 1.38 to 1 year growth or decay rate as we did with the zakat, sadaqah and rizq function previously.

- Usury growth rate $e^{(1.38\times x)}+(3x)-22$ becomes $e^{(0.00138\times x)}+\frac{(3x)-22}{1000}$
- Population decay rate $e^{(-1.38\times x)}-(3x)-22$ becomes $e^{(-0.00138\times x)}-\frac{(3x)-22}{1000}$

Let's use the same apes' example of 1000 apes, if they use in their society an average of usury growth of 0.138% (0.00138) after every year how many apes remain if they decrease with a rate of -0.138% (- 0.00138)?

**$1^{st}$ year**

- **Usury growth**

The amount $A_0$ lended by the bank is 1000\$. After one year the amount obtained A to be paid back to the bank is:

$$A = A_0 e^{(0.00138\times x)}+\frac{(3x)-22}{1000}$$

$$A = 1000e^{(0.00138\times 1)}+\frac{(3\times 1)-22}{1000}$$

$$A = 1001.38095263816 - 0.019$$

$$A = 1001.36195263816\$$$

The 1000\$ increased by 1.36195263816\$ the first year to 1001.36195263816\$.

- **Population decay**

The number of apes $A_0$. After one year of using that usury rate in their society, their number obtained A is:

$$A = A_0 e^{(-0.00138\times x)} - \frac{(3x)-22}{1000}$$

$$A = 1000e^{(-0.00138\times 1)} - \frac{(3\times 1)-22}{1000}$$

$$A = 998.620951762139 - (-0.019)$$

$$A = 998.639951762139 \text{ apes}$$

The apes' number decreased by -1.360048237861 apes the first year from 1000 apes to 998.639951762139 apes.

### $2^{nd}$ year

- **Usury growth**

The amount $A_0$ lended by the bank is 1000$. After 2 years the amount obtained A to be paid back to the bank is:

$$A = A_0 e^{(0.00138 \times x)} + \frac{(3x) - 22}{1000}$$

$$A = 1000 e^{(0.00138 \times 2)} + \frac{(3 \times 2) - 22}{1000}$$

$$A = 1002.76381230652 - 0.016$$

$$A = 1002.74781230652\$$$

The 1000$ increased by 1.36195263816$ the first year to 1001.36195263816$ then the second year increased to 1002.74781230652$ by 1.38585966836$.

- **Population decay**

The number of apes $A_0$. After 2 years of using that usury rate in their society, their number obtained A is:

$$A = A_0 e^{(-0.00138 \times x)} - \frac{(3x) - 22}{1000}$$

$$A = 1000 e^{(-0.00138 \times 2)} - \frac{(3 \times 2) - 22}{1000}$$

$$A = 997.24380529832 - (-0.016)$$

$$A = 997.25980529832 \text{ apes}$$

The apes' number decreased by -1.360048237861 apes the first year from 1000 apes to 998.639951762139 apes then the second year decreased to 997.25980529832 apes by -1.380146463819 apes.

Here is the table that summarizes the comparison between the 1000 year base dynamical system with the 100 year base dynamical system.

| | | 100 years Vs 1000 years growth or decay | |
|---|---|---|---|
| | | 100 years | 1000 years |
| Usury growth | First year | 13,70565952732$/year | 1,36195263816$/year |
| | Second year | 14,11874888102$/year | 1,38585966836$/year |
| | | | |
| Population decay | First year | -13,61521650502 apes/year | -1,360048237861 apes/year |
| | Second year | -13,44738354557 apes/year | -1,380146463819 apes/year |

Two verses in surah Al-Baqara can help us determine which one is meant by the Quran, is it the 100 years base or 1000 years base. The first is verse 96 that states:

"وَلَتَجِدَنَّهُمْ أَحْرَصَ ٱلنَّاسِ عَلَىٰ حَيَوٰةٍ وَمِنَ ٱلَّذِينَ أَشْرَكُوا۟ ۚ يَوَدُّ أَحَدُهُمْ لَوْ يُعَمَّرُ أَلْفَ سَنَةٍ وَمَا هُوَ بِمُزَحْزِحِهِۦ مِنَ ٱلْعَذَابِ أَن يُعَمَّرَ ۗ وَٱللَّهُ بَصِيرٌۢ بِمَا يَعْمَلُونَ.(96)

96-"You will surely find them clinging to life more eagerly than any other people, even more than polytheists. Each one of them wishes to live a thousand years. But even if they were to live that long, it would not save them from the punishment. And Allah is All-Seeing of what they do."

The second one is the verse 259 that states:

"أَوْ كَٱلَّذِى مَرَّ عَلَىٰ قَرْيَةٍ وَهِىَ خَاوِيَةٌ عَلَىٰ عُرُوشِهَا قَالَ أَنَّىٰ يُحْىِۦ هَٰذِهِ ٱللَّهُ بَعْدَ مَوْتِهَا ۖ فَأَمَاتَهُ ٱللَّهُ مِا۟ئَةَ عَامٍ ثُمَّ بَعَثَهُۥ ۖ قَالَ كَمْ لَبِثْتَ ۖ قَالَ لَبِثْتُ يَوْمًا أَوْ بَعْضَ يَوْمٍ ۖ قَالَ بَل لَّبِثْتَ مِا۟ئَةَ عَامٍ فَٱنظُرْ إِلَىٰ طَعَامِكَ وَشَرَابِكَ لَمْ يَتَسَنَّهْ ۖ وَٱنظُرْ إِلَىٰ حِمَارِكَ وَلِنَجْعَلَكَ ءَايَةً لِّلنَّاسِ ۖ وَٱنظُرْ إِلَى ٱلْعِظَامِ كَيْفَ نُنشِزُهَا ثُمَّ نَكْسُوهَا لَحْمًا ۚ فَلَمَّا تَبَيَّنَ لَهُۥ قَالَ أَعْلَمُ أَنَّ ٱللَّهَ عَلَىٰ كُلِّ شَىْءٍ قَدِيرٌ" (259)

259- «Or ˹are you not aware of˺ the one who passed by a city which was in ruins. He wondered, “How could Allah bring this back to life after its destruction?” So Allah caused him to die for a hundred years then brought him back to life. Allah asked, “How long have you remained ˹in this state˺?” He replied, “Perhaps a day or part of a day.” Allah said, “No! You have remained here for a hundred years! Just look at your food and drink—they have not spoiled. ˹But now˺ look at ˹the remains of˺ your donkey! And ˹so˺ We have made you into a sign for humanity. And look at the bones ˹of the donkey˺, how We bring them together then clothe them with flesh!” When this was made clear to him, he declared, “˹Now˺ I know that Allah is Most Capable of everything.”»

The reason why I chose surah Al-Baqara to interpret the "t" time unit if it is 100 or 1000 years is that:

1. The surah is the first surah in the Quran that started by the letter combination ʾAlif-Lām-Mīm ألم;
2. The surah has talked about the usury growth and the population decay as I previously analysed;
3. The surah has talked about all other cases of:

- Risq (provision) verses 267-268

267-"O ye who believe! Give of the good things which ye have (honourably) earned, and of the fruits of the earth which We have produced for you, and do not even aim at getting anything which is bad, in order that out of it ye may give away something, when ye yourselves would not receive it except with closed eyes. And know that Allah is Free of all wants, and worthy of all praise.
268-"Satan threatens you with poverty and orders you to immorality, while Allah promises you forgiveness from Him and bounty. And Allah is all-Encompassing and Knowing.
"يَا أَيُّهَا الَّذِينَ آمَنُوا أَنْفِقُوا مِنْ طَيِّبَاتِ مَا كَسَبْتُمْ وَمِمَّا أَخْرَجْنَا لَكُمْ مِنَ الْأَرْضِ وَلَا تَيَمَّمُوا الْخَبِيثَ مِنْهُ تُنْفِقُونَ وَلَسْتُمْ بِآخِذِيهِ إِلَّا أَنْ تُغْمِضُوا فِيهِ وَاعْلَمُوا أَنَّ اللَّهَ غَنِيٌّ حَمِيدٌ (267) الشَّيْطَانُ يَعِدُكُمُ الْفَقْرَ وَيَأْمُرُكُمْ بِالْفَحْشَاءِ وَاللَّهُ يَعِدُكُمْ مَغْفِرَةً مِنْهُ وَفَضْلًا وَاللَّهُ وَاسِعٌ عَلِيمٌ" (268)

- Sadaqa (donation) verse 271

271-"To give charity publicly is good, but to give to the poor privately is better for you, and will absolve you of your sins. And Allah is All-Aware of what you do."
"إِنْ تُبْدُوا الصَّدَقَاتِ فَنِعِمَّا هِيَ ۖ وَإِنْ تُخْفُوهَا وَتُؤْتُوهَا الْفُقَرَاءَ فَهُوَ خَيْرٌ لَكُمْ ۚ وَيُكَفِّرُ عَنْكُمْ مِنْ سَيِّئَاتِكُمْ ۗ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ"(271)

- Zakat (alms-tax) verse 277

277-"Indeed, those who believe, do good, establish prayer, and pay alms-tax will receive their reward from their Lord, and there will be no fear for them, nor will they grieve."
"إِنَّ الَّذِينَ آمَنُوا وَعَمِلُوا الصَّالِحَاتِ وَأَقَامُوا الصَّلَاةَ وَآتَوُا الزَّكَاةَ لَهُمْ أَجْرُهُمْ عِنْدَ رَبِّهِمْ وَلَا خَوْفٌ عَلَيْهِمْ وَلَا هُمْ يَحْزَنُونَ (277).

All these reasons make the surah the best candidate to interpret the time unit in my function. But notice that these verses in surah Al-Baqara of provision/risq (267-268), donation/sadaqa (271) and alms-tax/zakat (277); all of them came after the verse 259 in a frame of a story of the man who the Qur'an narrates he passed by a hamlet in ruins, where the people who lived there had died generations earlier, and then asked himself how God will be able to resurrect the dead on the Day of Judgment. The Qur'an goes on to say that God subsequently caused the man to die for a hundred years, and then raised him to life again. God then asked the man how long he felt he had "tarried thus", to which the man replied perhaps one day or part of day, at which point he was told the truth.
On the other hand, the food and the drink the man had with him were intact, and both were as fresh as it when he had left them, showing that God has power over all things and controls time for all things. The man's donkey, however, was not only dead but was reduced to pure skeletal form. And then, by God's power, the bones joined right in front of his eyes, and the body clothed itself in muscles, flesh and blood, resulting in the donkey coming back to life.

All scholars think that this parable is used to teach various lessons. Firstly, it represents that time is nothing to God, who has power over time. Secondly, it teaches that the keys of life, death and resurrection are in God's control only, and that man has no power over the three. Thirdly, like most Quranic parables, it illustrates that man's power is nothing, and that his utmost faith should rest in God and God only.

I personally add another lesson which is to make a ruined human city populate again, people need three things, first the provision/risq and secondly that provision has to be subject to alms-tax paying and thirdly subject to donation giving. These payments will redistribute equally that provision between all members of that population. This is the way how to revive a dead city that God wanted to teach us in those verses. The verse 259 started by the event of the man who was caused to die 100 years then comes the other verses (267-268-271-277) right after the man event to answer the man question: how to make a dead hamlet alive again ? The answer is in those verses about provision, alms-tax and donation.

For all these reasons I would use the time unit 100 years for my function and the yearly population decay –1.38% per year for the societies that uses usury 1.38% per year will be the first year –13.61521650502 humans/1000 humans and the second year –13.44738354557 humans/1000 humans according to the function: $A = A_0e^{(-0.0138\times x)} - \frac{(3x) - 22}{100}$ .

If the society uses a usury growth function as
$A = A_0e^{(0.0138\times x)} + \frac{(3x) - 22}{100}$ .

These results sound realistic. Notice that decay does not necessarily mean a decrease from the starting number of apes (1000 apes) , it could be a decrease in the growth quantity. For example if the 1000 apes increase 100 apes each year and then they start to use usury, next year their increase will be 1100–13,89521650502=1086,10478349498. Here they are still increasing from 1000 to 1086,10478349498 but with smaller quantity which is actually a decrease in growth (decay)

The population decay based on the calculation of 1000 years sounds possible also. The 1000 apes decrease the first year at a rate of –0.138% by -1.360048237861 apes/year and the second year by -1.380146463819 apes if they use usury that increases at a rate of 0.138%. More studies on usury growth rate and population decay rate relation have to be developed by specialists.

# Chapter V
# Ḥā Mīm; ʿAin Sīn Qāf ( حم عسق)

## I- The verses and the equation

The letters combination «Ḥā Mīm» can be transformed to numbers combination (6,24). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination«Ḥā Mīm» :
1. Ḥā = Ordinal number 6 in arabic alphabets;
2. Mīm = Ordinal number 24 in arabic alphabets;

Then we calculate the operation that was done to move from the first number (6) of the combination to the second number (24).

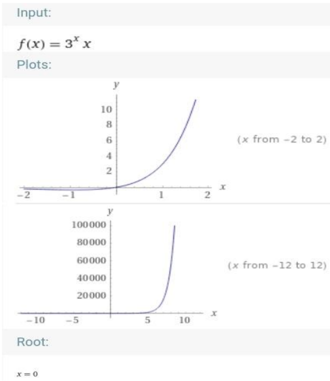
«6/24». The arithmetic operations are:

- $6 + 18 = 24$.

The number 18 can be written as a function: $f(2) = 3^2 \times 2$
$f(x) = 3^x \times x$

This is again an exponential function which expresses a dynamical system of a mechanism. So what would be the mechanism in the Quran that this function models ?

The graph of this equation is :



The letters combination «Ḥā Mīm» are the opening of a seven successive surahs called "Al-Hawamim" (In arabic,ٱلْحَوَامِيم and it is the plural of word حم). These surahs are ordered as below.

There are some common subjects that were treated in these seven surahs but the most important one that I think is a dynamical system is the hellfire. I think that the letters combination sets the function of the hellfire mechanism. It is a function that models the temperature rise.

Let's go step by step. All the seven surahs that start by combination letters "Ḥâ-Mĩm"/حم talks about the hellfire.

**1- Surah Ghafir**:

1-"Ḥâ-Mĩm
2-The revelation of the Book [i.e., the Qur'ān] is from Allah, the Exalted in Might, the Knowing,"

49-"And those in the Fire will cry out to the keepers of Hellfire, "Pray to your Lord to lighten the torment for us ˹even˺ for one day!""

وَقَالَ ٱلَّذِينَ فِي ٱلنَّارِ لِخَزَنَةِ جَهَنَّمَ ٱدْعُواْ رَبَّكُمْ يُخَفِّفْ عَنَّا يَوْمًا مِّنَ ٱلْعَذَابِ(49)

7-"Those ˹angels˺ who carry the Throne and those around it glorify the praises of their Lord, have faith in Him, and seek forgiveness for the believers, ˹praying:˺ "Our Lord! You encompass everything in ˹Your˺ mercy and knowledge. So forgive those who repent and follow Your Way, and protect them from the torment of the Hellfire."

الَّذِينَ يَحْمِلُونَ الْعَرْشَ وَمَنْ حَوْلَهُ يُسَبِّحُونَ بِحَمْدِ رَبِّهِمْ وَيُؤْمِنُونَ بِهِ وَيَسْتَغْفِرُونَ لِلَّذِينَ آمَنُوا رَبَّنَا وَسِعْتَ كُلَّ شَيْءٍ رَحْمَةً وَعِلْمًا فَاغْفِرْ لِلَّذِينَ تَابُوا وَاتَّبَعُوا سَبِيلَكَ وَقِهِمْ عَذَابَ الْجَحِيمِ (7)

60-"Your Lord has proclaimed, "Call upon Me, I will respond to you. Surely those who are too proud to worship Me will enter Hellfire, fully humbled.""

وَقَالَ رَبُّكُمُ ادْعُونِي أَسْتَجِبْ لَكُمْ إِنَّ الَّذِينَ يَسْتَكْبِرُونَ عَنْ عِبَادَتِي سَيَدْخُلُونَ جَهَنَّمَ دَاخِرِينَ(60)

76-"Enter the gates of Hellfire, to stay there forever. What an evil home for the arrogant!"

ادْخُلُوا أَبْوَابَ جَهَنَّمَ خَالِدِينَ فِيهَا فَبِئْسَ مَثْوَى الْمُتَكَبِّرِينَ(76).

**2- Surah Fussilat**

1-"Ḥâ-Mĩm
2-A Revelation from (Allah), Most Gracious, Most Merciful"

19-"And [mention, O Muḥammad], the Day when the enemies of Allah will be gathered to the Fire while they are [driven], assembled in rows"

وَيَوْمَ يُحْشَرُ أَعْدَآءُ ٱللَّهِ إِلَى ٱلنَّارِ فَهُمْ يُوزَعُونَ(19)

28-"That is the recompense of the enemies of Allah - the Fire. For them therein is the home of eternity as recompense for what they, of Our verses, were rejecting."

ذَٰلِكَ جَزَآءُ أَعْدَآءِ ٱللَّهِ ٱلنَّارُ لَهُمْ فِيهَا دَارُ ٱلْخُلْدِ جَزَآءًۢ بِمَا كَانُوا۟ بِـَٔايَٰتِنَا يَجْحَدُونَ(28)

**3- Surah Ash-Shura**

1-"Ḥâ-Mĩm
2- ʿAin Sĩn Qāf
3-Thus has He revealed to you, [O Muḥammad], and to those before you - Allah, the Exalted in Might, the Wise.

7-"And thus We have revealed to you an Arabic Qur'ān that you may warn the Mother of Cities [i.e., Makkah] and those around it1 and warn of the Day of Assembly, about which there is no doubt. A party will be in Paradise and a party in the Blaze."

وَكَذَٰلِكَ أَوْحَيْنَا إِلَيْكَ قُرْآنًا عَرَبِيًّا لِتُنْذِرَ أُمَّ الْقُرَىٰ وَمَنْ حَوْلَهَا وَتُنْذِرَ يَوْمَ الْجَمْعِ لَا رَيْبَ فِيهِ ۚ فَرِيقٌ فِي الْجَنَّةِ وَفَرِيقٌ فِي السَّعِيرِ (7)

**4- Surah Az-Zukhruf**

1-"Ḥâ-Mĩm
2- By the clear Book,"

74-"Indeed, the criminals will be in the punishment of Hell, abiding eternally."

إِنَّ الْمُجْرِمِينَ فِي عَذَابِ جَهَنَّمَ خَالِدُونَ (74)

**5- Surah Ad-Dukhan**

1-"Ḥâ-Mĩm
2-By the clear Book,"

43-"Indeed, the tree of zaqqūm
44-"Is food for the sinful.
45-"Like murky oil, it boils within bellies
46-"Like the boiling of scalding water.
47-"[It will be commanded], "Seize him and drag him into the midst of the Hellfire"
48-"Then pour over his head from the torment of scalding water."
49-"[It will be said], "Taste! Indeed, you are the honored, the noble!"

إِنَّ شَجَرَتَ الزَّقُّومِ (43) طَعَامُ الْأَثِيمِ (44) كَالْمُهْلِ يَغْلِي فِي الْبُطُونِ (45) كَغَلْيِ الْحَمِيمِ (46) خُذُوهُ فَاعْتِلُوهُ إِلَى سَوَاءِ الْجَحِيمِ
(47) ثُمَّ صُبُّوا فَوْقَ رَأْسِهِ مِنْ عَذَابِ الْحَمِيمِ (48) ذُقْ إِنَّكَ أَنْتَ الْعَزِيزُ الْكَرِيمُ (49).

**6- Surah Al-Jathiya**

1-"Ḥâ-Mĩm
2-The revelation of the Book is from Allah, the Exalted in Might, the Wise."

10-"Before them is Hell, and what they had earned will not avail them at all nor what they had taken besides Allah as allies. And they will have a great punishment."

مِنْ وَرَائِهِمْ جَهَنَّمُ وَلَا يُغْنِي عَنْهُمْ مَا كَسَبُوا شَيْئًا وَلَا مَا اتَّخَذُوا مِنْ دُونِ اللَّهِ أَوْلِيَاءَ وَلَهُمْ عَذَابٌ عَظِيمٌ (10)

**7- Surah Al-Ahqaf**

1-"Ḥâ-Mĩm
2-The revelation of the Book is from Allah, the Exalted in Might, the Wise."

18-"Those are the ones upon whom the word [i.e., decree] has come into effect, [who will be] among nations which had passed on before them of jinn and men. Indeed, they [all] were losers.
19-"And for all there are degrees [of reward and punishment] for what they have done, and [it is] so that He may fully compensate them for their deeds, and they will not be wronged.
20-"And the Day those who disbelieved are exposed to the Fire [it will be said], "You exhausted your pleasures during your worldly life and enjoyed them, so this Day you will be awarded the punishment of [extreme] humiliation because you were arrogant upon the earth without right and because you were defiantly disobedient."

أُولَئِكَ الَّذِينَ حَقَّ عَلَيْهِمُ الْقَوْلُ فِي أُمَمٍ قَدْ خَلَتْ مِنْ قَبْلِهِمْ مِنَ الْجِنِّ وَالْإِنْسِ إِنَّهُمْ كَانُوا خَاسِرِينَ (18) وَلِكُلٍّ دَرَجَاتٌ مِمَّا عَمِلُوا
وَلِيُوَفِّيَهُمْ أَعْمَالَهُمْ وَهُمْ لَا يُظْلَمُونَ (19) وَيَوْمَ يُعْرَضُ الَّذِينَ كَفَرُوا عَلَى النَّارِ أَذْهَبْتُمْ طَيِّبَاتِكُمْ فِي حَيَاتِكُمُ الدُّنْيَا وَاسْتَمْتَعْتُمْ بِهَا
فَالْيَوْمَ تُجْزَوْنَ عَذَابَ الْهُونِ بِمَا كُنْتُمْ تَسْتَكْبِرُونَ فِي الْأَرْضِ بِغَيْرِ الْحَقِّ وَبِمَا كُنْتُمْ تَفْسُقُونَ (20).

**II- The hell system**

**1 - The characteristics**

From all the previous verses we can deduce that the fire is an enclosed space with different 7 levels or we can say 7 different spaces announced in verse 33-44 surah Al-Hijr

43-"And indeed, Hell is the promised place for them all.
44-"It has seven gates; for every gate is of them [i.e., Satan's followers] a portion designated."

وَإِنَّ جَهَنَّمَ لَمَوْعِدُهُمْ أَجْمَعِينَ (43)
لَهَا سَبْعَةُ أَبْوَابٍ لِّكُلِّ بَابٍ مِّنْهُمْ جُزْءٌ مَّقْسُومٌ (44)

Here I can understand clearly that Jahannam is the general name of the 7 spaces. Each space (called gate in the verse) is most likely to be a heated planet with a different degree Celsius of temperature. They are planets because those who are in hellfire are having an eternal life where they walk, talk, eat and wear clothes as we do on the earth planet but with wordly temperature.

What support my idea of 7 different heated planets is the hadith that says:

Allah's Apostle said, "Your (ordinary) fire is one of 70 parts of the (Hell) Fire." Someone asked, "O Allah's Apostle This (ordinary) fire would have been sufficient (to torture the unbelievers)," Allah's Apostle said, "The (Hell) Fire has 69 parts more than the ordinary (worldly) fire, each part is as hot as this (worldly) fire."
Volume 4, Book 54, Number 487
Narrated Abu Huraira:
حَدَّثَنَا إِسْمَاعِيلُ بْنُ أَبِي أُوَيْسٍ ، قَالَ حَدَّثَنِي مَالِكٌ ، عَنْ أَبِي الزِّنَادِ ، عَنِ الأَعْرَجِ ، عَنْ أَبِي هُرَيْرَةَ رَضِيَ اللَّهُ عَنْهُ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ، قَالَ : « نَارُكُمْ جُزْءٌ مِنْ سَبْعِينَ جُزْءًا مِنْ نَارِ جَهَنَّمَ ، قِيلَ يَا رَسُولَ اللَّهِ إِنْ كَانَتْ لَكَافِيَةً قَالَ : فُضِّلَتْ عَلَيْهِنَّ بِتِسْعَةٍ وَسِتِّينَ جُزْءًا كُلُّهُنَّ مِثْلُ حَرِّهَا».

The fire temperature could be coming from the planet core. The planetary core consists of the innermost layer(s) of a planet. Cores of specific planets may be entirely solid or entirely liquid, or may be a mixture of solid and liquid layers as is the case in the Earth. In the Solar System, core size can range from about 20% (Moon) to 85% of a planet's radius (Mercury).

A planetary core acts as a heat source for the outer layers of a planet. In the Earth, the heat flux over the core mantle boundary is 12 terawatts. This value is calculated from a variety of factors: secular cooling, differentiation of light elements, Coriolis forces, radioactive decay, and latent heat of crystallization. All planetary bodies have a primordial heat value, or the amount of energy from accretion. Cooling from this initial temperature is called secular cooling, and in the Earth the secular cooling of the core transfers heat into an insulating silicate mantle. As the inner core grows, the latent heat of crystallization adds to the heat flux into the mantle.

Small planetary cores may experience catastrophic energy release associated with phase changes within their cores. Ramsey, 1950 found that the total energy released by such a phase change would be on the order of 1029 joules; equivalent to the total energy release due to earthquakes through geologic time. Such an event could explain the asteroid belt. Such phase changes would only occur at specific mass to volume ratios, and an example of such a phase change would be the rapid formation or dissolution of a solid core component.

The fire temperature could also be coming from a gigantic planet as the sun that survives by burning hydrogen atoms into helium atoms in its core. In fact, it burns through 600 million tons of hydrogen every second. The distance between these 7 planets (7 jahannam) and the gigantic planet determines the temperature on these planets. The farther the planet is the lower the temperature is on it. That explains the different degrees Celsius of temperature in 7 jahannam and that is why some of them are not hot, on the contrary they are cold because they are far from the heating gigantic planet and that could be the "zamharīr" (the extremely cold section of Jahannam). That was expressed in the following hadith.

Abu Hurayrah reported that the messenger said: "Jahannam complained to its Lord saying: 'Oh my Lord, parts within me have devoured each other.' So Allah allowed it two breaths: one in the summer and the other in the winter. Therefore the extreme heat that you experience (on earth) is caused by the heat of Jahannam, and the severe cold too is due to the zamharīr. (the extremely cold section of Jahannam)." (Sahīh Bukhārī 537, Sahīh Muslim 617)
روى البخاري (3260) ، ومسلم (617) عن أبي هُرَيْرَةَ رَضِيَ اللَّهُ عَنْهُ ، قال: قَالَ رَسُولُ اللَّهِ صَلَّى اللهُ عَلَيْهِ وَسَلَّمَ : « اشْتَكَتِ النَّارُ إِلَى رَبِّهَا فَقَالَتْ : "رَبِّ أَكَلَ بَعْضِي بَعْضًا"، فَأَذِنَ لَهَا بِنَفَسَيْنِ: نَفَسٍ فِي الشِّتَاءِ ، وَنَفَسٍ فِي الصَّيْفِ ؛ فَأَشَدُّ مَا تَجِدُونَ مِنَ الحَرِّ، وَأَشَدُّ مَا تَجِدُونَ مِنَ الزَّمْهَرِيرِ ».

The idea of a gigantic planet like the sun to be the source of heating on these «planets-jahannam» is not supported by physical evidences because the existence of such a gigantic "sun" needs the small «planets-jahannam» to orbit around it to heat all parts of them otherwise when the east is heated the west will be cold and inorder to heat all parts of each planet at the same time the orbit is needed and the orbit rotation creates time running which is contradictory with eternal timeless hellfire as verse 74 surah Az-Zukhruf states : "Indeed, the criminals will be in the punishment of Hell, abiding eternally."

إِنَّ الْمُجْرِمِينَ فِي عَذَابِ جَهَنَّمَ خَالِدُونَ (74)

Then it seems that the most logical idea is that the core of each planet is a source of the heat. The 7 jahannam are described in verse 145 surah An-Nisaa to be superposed vertically which it means that the 7 planets are placed vertically as the verse 145 of surah An-Nissa mentioned: "Indeed, the hypocrites will be in the lowest depths of the Fire - and never will you find for them a helper"

إِنَّ الْمُنَافِقِينَ فِي الدَّرْكِ الْأَسْفَلِ مِنَ النَّارِ وَلَن تَجِدَ لَهُمْ نَصِيرًا (145)

This position implies the existence of Altitude and the temperature changes in a function with the altitude; vertical temperature variation is the variation in temperature as a function of elevation. My function was :
$f(x) = 3^x \times x$ , this function has a base "b" equal to 3 and has to be transformed to base "e" according to the rule :

$Y = ab^x$ is equivalent to $y = ae^{(\ln b)x}$.

My exponential equation is :
$Y = 1 \times 3^{x} \times x$ becomes equivalent to
$Y = 1 \times e^{(\ln 3)\,x} = 2.71828182845905^{1.099 \times x}$
$Y = 2.71828182845905^{1.099 \times x}$

I can replace letter "Y" by letter "T" for Temperature and my function becomes:

$T_h = T_0 e^{1.099 \times x}$

-$T_h$ = the temperature of the planet (jahannam) at height h,
-$T_0$ = the temperature at reference point 0 (can be referring to the first jahannam planet level).
- 1.099 rate of temperature change in decimal as altitude increases ( in percentage is 109,9%)
- x is the altitude unit that can be in m or km or more.

Let's try to decrypt these data. First let's assume that the distance altitude between each jahannam-planet is 70 earthy years. There is a hadith graded «very strange» that announces the distance between each part of the 7 parts of jahannam to be 70 earthy years.

A gharib (غريب, Gharīb) hadith is one conveyed by only one narrator. Al-Tirmidhi's understanding of a gharib hadith, concurs to a certain extent with that of the other traditionalists. According to him a hadith may be classified as gharib for one of the following three reasons:

Firstly, a hadith may be classified as gharib since it is narrated from one chain only. Al-Tirmidhi mentions as an example a tradition from Hammad ibn Salamah from Abu 'Usharai on the authority of his father who enquired from the Prophet whether the slaughtering of an animal is confined to the gullet and throat. The Prophet replied that stabbing the thigh will also suffice.
Secondly, a tradition can be classified as gharib due to an addition in the text, though it will be considered a sound tradition, if that addition is reported by a reliable reporter. The example cited by al-Tirmidhi is a tradition narrated through the chain of Malik (died 179 AH) from Nafi' (died 117 AH) on the authority of Ibn 'Umar (died 73 AH) who stated that the Prophet declared alms-giving at the end of Ramadan obligatory upon every Muslim, male or female, whether a free person or slave from the Muslims. However, this tradition has also been narrated by Ayyub Sakhtiyani and 'Ubaid Allah ibn 'Umar, without the addition "from the Muslims", hence the above-mentioned example due to the addition of "from the Muslims" in the text is classified as gharib.Thirdly, a tradition may be declared gharib since it is narrated through various chains of transmitters but having within one of its chains an addition in the isnād.

The hadith of distance between each of the 7 hellfire  in arabic language the following:

مسند أحمد ابن حنبل مُسْنَدُ الْمَدَنِيِّينَ حَدِيثُ أَبِي رَزِينٍ الْعُقَيْلِيِّ لَقِيطِ بْنِ عَامِرٍ الْمُنْتَفِقِ 15951 "قَالَ عَبْدُ اللَّهِ بْنُ أَحْمَدَ ، كَتَبَ إِلَيَّ إِبْرَاهِيمُ بْنُ حَمْزَةَ بْنِ مُحَمَّدِ بْنِ حَمْزَةَ بْنِ مُصْعَبِ بْنِ الزُّبَيْرِ الزُّبَيْرِيِّ ، كَتَبْتُ إِلَيْكَ بِهَذَا الْحَدِيثِ ، وَقَدْ عَرَضْتُهُ وسَمَعْتُهُ عَلَى مَا كَتَبْتُ بِهِ إِلَيْكَ ، فَحَدِّثْ بِذَلِكَ عَنِّي ، قَالَ : حَدَّثَنِي عَبْدُ الرَّحْمَنِ بْنُ الْمُغِيرَةِ الْحِزَامِيُّ ، قَالَ : حَدَّثَنِي عَبْدُ الرَّحْمَنِ بْنُ عَيَّاشٍ السَّمَعِيُّ الْأَنْصَارِيُّ الْقُبَائِيُّ ، مِنْ بَنِي عَمْرِو بْنِ عَوْفٍ ، عَنْ دَلْهَمِ بْنِ الْأَسْوَدِ بْنِ عَبْدِ اللَّهِ بْنِ حَاجِبِ بْنِ عَامِرِ بْنِ الْمُنْتَفِقِ الْعُقَيْلِيِّ ، عَنْ أَبِيهِ ، عَنْ عَمِّهِ لَقِيطِ بْنِ عَامِرٍ ، قَالَ دَلْهَمٌ : وَحَدَّثَنِيهِ أَبِي الْأَسْوَدُ ، عَنِ عَاصِمِ بْنِ لَقِيطٍ ، أَنَّ لَقِيطًا خَرَجَ وَافِدًا إِلَى رَسُولِ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ، وَمَعَهُ صَاحِبٌ لَهُ يُقَالُ لَهُ : نَهِيكُ بْنُ عَاصِمِ بْنِ مَالِكِ بْنِ الْمُنْتَفِقِ ، قَالَ لَقِيطٌ : فَخَرَجْتُ أَنَا وَصَاحِبِي حَتَّى قَدِمْنَا عَلَى رَسُولِ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ لِانْسِلَاخِ رَجَبٍ ، فَأَتَيْنَا رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَوَافَيْنَاهُ حِينَ انْصَرَفَ مِنْ صَلَاةِ الْغَدَاةِ ، فَقَامَ فِي النَّاسِ خَطِيبًا ، فَقَالَ : أَيُّهَا النَّاسُ ، أَلَا إِنِّي قَدْ خَبَّأْتُ لَكُمْ صَوْتِي مُنْذُ أَرْبَعَةِ أَيَّامٍ ، أَلَا لَأُسْمِعَنَّكُمْ ، أَلَا فَهَلْ مِنِ امْرِئٍ بَعَثَهُ قَوْمُهُ ؟ فَقَالُوا : اعْلَمْ لَنَا مَا يَقُولُ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ، أَلَا ثُمَّ لَعَلَّهُ أَنْ يُلْهِيَهُ حَدِيثُ نَفْسِهِ ، أَوْ حَدِيثُ صَاحِبِهِ ، أَوْ يُلْهِيَهُ الضُّلَّالُ ، أَلَا إِنِّي مَسْئُولٌ ، هَلْ بَلَّغْتُ ؟ أَلَا اسْمَعُوا تَعِيشُوا ، أَلَا اجْلِسُوا ، أَلَا اجْلِسُوا قَالَ : فَجَلَسَ النَّاسُ ، وَقُمْتُ أَنَا وَصَاحِبِي حَتَّى إِذَا فَرَغَ لَنَا فُؤَادُهُ ، وَبَصَرُهُ ، قُلْتُ : يَا رَسُولَ اللَّهِ ، مَا عِنْدَكَ مِنْ عِلْمِ الْغَيْبِ ؟ فَضَحِكَ لَعَمْرُ اللَّهِ ، وَهَزَّ رَأْسَهُ ، وَعَلِمَ أَنِّي أَبْتَغِي لِسَقَطِهِ ، فَقَالَ : ضَنَّ رَبُّكَ عَزَّ وَجَلَّ بِمَفَاتِيحَ خَمْسٍ مِنَ الْغَيْبِ ، لَا يَعْلَمُهَا إِلَّا اللَّهُ ، وَأَشَارَ بِيَدِهِ ، قُلْتُ : وَمَا هِيَ ؟ قَالَ : عِلْمُ الْمَنِيَّةِ ، قَدْ عَلِمَ مَتَى مَنِيَّةَ أَحَدِكُمْ ، وَلَا تَعْلَمُونَهُ ، وَعِلْمُ الْمَنِيِّ حِينَ يَكُونُ فِي الرَّحِمِ قَدْ عَلِمَهُ ، وَلَا تَعْلَمُونَهُ ، وَعَلِمَ مَا فِي غَدٍ ، قَدْ عَلِمَ مَا أَنْتَ طَاعِمٌ غَدًا ، وَلَا تَعْلَمُهُ ، وَعَلِمَ يَوْمَ الْغَيْثَ ، يُشْرِفُ عَلَيْكُمْ آزِلِينَ آدِلِينَ مُشْفِقِينَ ، فَيَظَلُّ يَضْحَكُ قَدْ عَلِمَ أَنَّ غَيْرَكُمْ إِلَى قُرْبٍ قَالَ لَقِيطٌ قُلْتُ : : لَنْ نَعْدَمَ مِنْ رَبٍّ يَضْحَكُ خَيْرًا ، وَعَلِمَ يَوْمَ السَّاعَةِ ، قُلْتُ : يَا رَسُولَ اللَّهِ ، عَلِّمْنَا مِمَّا تُعَلِّمُ النَّاسَ ، وَمَا تَعْلَمُ ، فَإِنَّا مِنْ قَبِيلٍ لَا يُصَدِّقُ تَصْدِيقَنَا أَحَدٌ مِنْ مَذْحِجٍ الَّتِي تَرْبَأُ عَلَيْنَا ، وَخَثْعَمٍ الَّتِي تُوَالِينَا ، وَعَشِيرَتِنَا الَّتِي نَحْنُ مِنْهَا ، قَالَ : تَلْبَثُونَ مَا لَبِثْتُمْ ، ثُمَّ يُتَوَفَّى نَبِيُّكُمْ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ، ثُمَّ تَلْبَثُونَ مَا لَبِثْتُمْ ، ثُمَّ تُبْعَثُ الصَّائِحَةُ لَعَمْرُ إِلَهِكَ ، مَا تَدَعُ عَلَى ظَهْرِهَا مِنْ شَيْءٍ إِلَّا مَاتَ ، وَالْمَلَائِكَةُ الَّذِينَ مَعَ رَبِّكَ عَزَّ وَجَلَّ ، فَأَصْبَحَ رَبُّكَ عَزَّ وَجَلَّ يُطِوفُ فِي الْأَرْضِ ، وَخَلَتْ عَلَيْهِ الْبِلَادُ ، فَأَرْسَلَ رَبُّكَ عَزَّ وَجَلَّ السَّمَاءَ تَهْضِبُ مِنْ عِنْدِ الْعَرْشِ ، فَلَعَمْرُ إِلَهِكَ مَا تَدَعُ عَلَى ظَهْرِهَا مِنْ مَصْرَعِ قَتِيلٍ ، وَلَا مَدْفِنِ مَيِّتٍ ، إِلَّا شَقَّتِ الْقَبْرَ عَنْهُ ، حَتَّى تَجْعَلَهُ مِنْ عِنْدِ رَأْسِهِ ، فَيَسْتَوِي جَالِسًا ، فَيَقُولُ رَبُّكَ : مَهْيَمْ لِمَا كَانَ فِيهِ ، يَقُولُ : يَا رَبِّ ، أَمْسِ ، الْيَوْمَ ، وَلِعَهْدِهِ بِالْحَيَاةِ يَحْسَبُهُ ، حَدِيثًا بِأَهْلِهِ ، فَقُلْتُ : يَا رَسُولَ اللَّهِ ، كَيْفَ يَجْمَعُنَا بَعْدَ مَا تُمَزِّقُنَا الرِّيَاحُ وَالْبِلَى ، وَالسِّبَاعُ ؟ ، قَالَ : أُنَبِّئُكَ بِمِثْلِ ذَلِكَ فِي آلَاءِ اللَّهِ ، الْأَرْضُ أَشْرَفْتَ عَلَيْهَا ، وَهِيَ مَدَرَةٌ بَالِيَةٌ ، فَقُلْتَ : لَا تَحْيَا أَبَدًا ، ثُمَّ أَرْسَلَ رَبُّكَ عَزَّ وَجَلَّ عَلَيْهَا السَّمَاءَ ، فَلَمْ تَلْبَثْ عَلَيْكَ إِلَّا أَيَّامًا حَتَّى أَشْرَفْتَ عَلَيْهَا ، وَهِيَ شَرْبَةٌ وَاحِدَةٌ وَلَعَمْرُ إِلَهِكَ لَهُوَ أَقْدَرُ عَلَى أَنْ يَجْمَعَهُمْ مِنَ الْمَاءِ عَلَى أَنْ يَجْمَعَ نَبَاتَ الْأَرْضِ فَيَخْرُجُونَ مِنَ الْأَصْوَاءِ ، وَمِنْ مَصَارِعِهِمْ فَتَنْظُرُونَ إِلَيْهِ ، وَيَنْظُرُ إِلَيْكُمْ قَالَ : قُلْتُ : يَا رَسُولَ اللَّهِ ، كَيْفَ وَنَحْنُ مِلْءُ الْأَرْضِ وَهُوَ شَخْصٌ وَاحِدٌ نَنْظُرُ إِلَيْهِ وَيَنْظُرُ إِلَيْنَا ؟ قَالَ : أُنَبِّئُكَ بِمِثْلِ ذَلِكَ فِي آلَاءِ اللَّهِ عَزَّ وَجَلَّ ، الشَّمْسُ وَالْقَمَرُ آيَةٌ مِنْهُ صَغِيرَةٌ تَرَوْنَهُمَا وَيَرَيَانِكُمْ ، سَاعَةً وَاحِدَةً لَا تُضَارُّونَ فِي رُؤْيَتِهِمَا ، وَلَعَمْرُ إِلَهِكَ لَهُوَ أَقْدَرُ عَلَى أَنْ يَرَاكُمْ ، وَتَرَوْنَهُ مِنْ أَنْ تَرَوْنَهُمَا ، وَيَرَيَانِكُمْ لَا تُضَارُّونَ فِي رُؤْيَتِهِمَا قُلْتُ : يَا رَسُولَ اللَّهِ ، فَمَا يَفْعَلُ بِنَا رَبُّنَا عَزَّ وَجَلَّ إِذَا لَقِينَاهُ ؟ قَالَ : تُعْرَضُونَ عَلَيْهِ بَادِيَةٌ لَهُ صَفَحَاتُكُمْ ، لَا يَخْفَى عَلَيْهِ مِنْكُمْ خَافِيَةٌ ، فَيَأْخُذُ رَبُّكَ عَزَّ وَجَلَّ بِيَدِهِ غَرْفَةً مِنَ الْمَاءِ فَيَنْضَحُ قَبِيلَكُمْ بِهَا ، فَلَعَمْرُ إِلَهِكَ مَا تُخْطِئُ وَجْهَ أَحَدِكُمْ مِنْهَا قَطْرَةٌ ، فَأَمَّا الْمُسْلِمُ فَتَدَعُ وَجْهَهُ مِثْلَ الرَّيْطَةِ الْبَيْضَاءِ ، وَأَمَّا الْكَافِرُ فَتَخْطِمُهُ مِثْلَ الْحَمِيمِ الْأَسْوَدِ ، أَلَا ثُمَّ يَنْصَرِفُ نَبِيُّكُمْ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ وَيَفْتَرِقُ عَلَى إِثْرِهِ الصَّالِحُونَ ، فَيَسْلُكُونَ جِسْرًا مِنَ النَّارِ ، فَيَطَأُ أَحَدُكُمُ الْجَمْرَ ، فَيَقُولُ : حَسِّ يَقُولُ رَبُّكَ عَزَّ وَجَلَّ : أَوَانُهُ ، أَلَا فَتَطَّلِعُونَ عَلَى حَوْضِ الرَّسُولِ عَلَى أَظْمَأٍ ، وَاللَّهِ نَاهِلَةٍ عَلَيْهَا قَطُّ ، مَا رَأَيْتُهَا ، فَلَعَمْرُ إِلَهِكَ مَا يَبْسُطُ وَاحِدٌ مِنْكُمْ يَدَهُ ، إِلَّا وُقِعَ عَلَيْهَا قَدَحٌ يُطَهِّرُهُ مِنَ الطَّوْفِ ، وَالْبَوْلِ ، وَالْأَذَى ، وَتُحْبَسُ الشَّمْسُ وَالْقَمَرُ ، وَلَا تَرَوْنَ مِنْهُمَا وَاحِدًا قَالَ : قُلْتُ : يَا رَسُولَ اللَّهِ ، فَبِمَا نُبْصِرُ ؟ قَالَ : بِمِثْلِ بَصَرِكَ سَاعَتَكَ هَذِهِ ، وَذَلِكَ قَبْلَ طُلُوعِ الشَّمْسِ فِي يَوْمٍ أَشْرَقَتِ الْأَرْضُ ، وَاجَهَتْ بِهِ الْجِبَالَ قَالَ : قُلْتُ : يَا رَسُولَ اللَّهِ ، فَبِمَا نُجْزَى مِنْ سَيِّئَاتِنَا وَحَسَنَاتِنَا ؟ قَالَ : الْحَسَنَةُ بِعَشْرِ أَمْثَالِهَا ، وَالسَّيِّئَةُ بِمِثْلِهَا ، إِلَّا أَنْ يَعْفُوَ قَالَ : قُلْتُ : يَا رَسُولَ اللَّهِ ، إِمَّا الْجَنَّةُ ، إِمَّا النَّارُ قَالَ : لَعَمْرُ إِلَهِكَ إِنَّ لِلنَّارِ لَسَبْعَةَ أَبْوَابٍ ، مَا مِنْهُنَّ بَابَانِ إِلَّا يَسِيرُ الرَّاكِبُ بَيْنَهُمَا سَبْعِينَ عَامًا ، وَإِنَّ لِلْجَنَّةِ لَثَمَانِيَةَ أَبْوَابٍ مَا مِنْهُمَا بَابَانِ إِلَّا يَسِيرُ الرَّاكِبُ بَيْنَهُمَا سَبْعِينَ عَامًا قُلْتُ : يَا رَسُولَ اللَّهِ ، فَعَلَى مَا نَطَّلِعُ مِنَ الْجَنَّةِ ؟ قَالَ : عَلَى أَنْهَارٍ مِنْ عَسَلٍ مُصَفًّى ، وَأَنْهَارٍ مِنْ كَأْسٍ مَا بِهَا مِنْ صُدَاعٍ ، وَلَا نَدَامَةٍ ، وَأَنْهَارٍ مِنْ لَبَنٍ لَمْ يَتَغَيَّرْ طَعْمُهُ ، وَمَاءٍ غَيْرِ آسِنٍ ، وَبِفَاكِهَةٍ لَعَمْرُ إِلَهِكَ مَا تَعْلَمُونَ ، وَخَيْرٌ مِنْ مِثْلِهِ مَعَهُ ، وَأَزْوَاجٌ مُطَهَّرَةٌ قُلْتُ : يَا رَسُولَ اللَّهِ ، أَوَلَنَا فِيهَا أَزْوَاجٌ ، أَوْ مِنْهُنَّ

مُصْلِحَاتٌ ؟ قَالَ : الصَّالِحَاتُ لِلصَّالِحِينَ ، تَلَذُّونَهُنَّ مِثْلَ لَذَّاتِكُمْ فِي الدُّنْيَا ، وَيَلْذَذْنَ بِكُمْ غَيْرَ أَنْ لَا تَوَالُدَ قَالَ لَقِيطٌ : فَقُلْتُ : أَقْصِيَ مَا نَحْنُ بَالِغُونَ ، وَمُنْتَهُونَ إِلَيْهِ ؟ فَلَمْ يُجِبْهُ النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ، قُلْتُ : يَا رَسُولَ اللَّهِ ، مَا أُبَايِعُكَ ؟ قَالَ : فَبَسَطَ النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ يَدَهُ ، وَقَالَ : عَلَى إِقَامِ الصَّلَاةِ ، وَإِيتَاءِ الزَّكَاةِ ، وَزِيَالِ الْمُشْرِكِ ، وَأَنْ لَا تُشْرِكَ بِاللَّهِ إِلَهًا غَيْرَهُ قُلْتُ : وَإِنَّ لَنَا مَا بَيْنَ الْمَشْرِقِ ، وَالْمَغْرِبِ ؟ فَقَبَضَ النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ يَدَهُ ، وَظَنَّ أَنِّي مُشْتَرِطٌ شَيْئًا لَا يُعْطِينِيهِ ، قَالَ : قُلْتُ : نَحِلُّ مِنْهَا حَيْثُ شِئْنَا ، وَلَا يَجْنِي امْرُؤٌ إِلَّا عَلَى نَفْسِهِ ، فَبَسَطَ يَدَهُ ، وَقَالَ : ذَلِكَ لَكَ تَحِلُّ حَيْثُ شِئْتَ ، وَلَا يَجْنِي عَلَيْكَ إِلَّا نَفْسُكَ قَالَ : فَانْصَرَفْنَا عَنْهُ ، ثُمَّ قَالَ : إِنَّ هَذَيْنِ لَعَمْرُ إِلَهِكَ مِنْ أَتْقَى النَّاسِ فِي الْأُولَى ، وَالْآخِرَةِ فَقَالَ لَهُ كَعْبُ ابْنُ الْخُدَارِيَّةِ أَحَدُ بَنِي بَكْرِ بْنِ كِلَابٍ : مِنْ هُمْ يَا رَسُولَ اللَّهِ ؟ قَالَ : بَنُو الْمُنْتَفِقِ أَهْلُ ذَلِكَ قَالَ : فَانْصَرَفْنَا ، وَأَقْبَلْتُ عَلَيْهِ ، فَقُلْتُ : يَا رَسُولَ اللَّهِ ، هَلْ لِأَحَدٍ مِمَّنْ مَضَى مِنْ خَيْرٍ فِي جَاهِلِيَّتِهِمْ ؟ قَالَ : قَالَ رَجُلٌ مِنْ عُرْضِ قُرَيْشٍ : وَاللَّهِ إِنَّ أَبَاكَ الْمُنْتَفِقَ لَفِي النَّارِ ، قَالَ : فَلَكَأَنَّهُ وَقَعَ حَرٌّ بَيْنَ جِلْدِي وَوَجْهِي وَلَحْمِي مِمَّا قَالَ لِأَبِي عَلَى رُءُوسِ النَّاسِ ، فَهَمَمْتُ أَنْ أَقُولَ : وَأَبُوكَ يَا رَسُولَ اللَّهِ ؟ ثُمَّ إِذَا الْأُخْرَى أَجْمَلُ ، فَقُلْتُ : يَا رَسُولَ اللَّهِ ، وَأَهْلُكَ ؟ قَالَ : وَأَهْلِي لَعَمْرُ اللَّهِ مَا أَتَيْتَ عَلَيْهِ مِنْ قَبْرِ عَامِرِيٍّ ، أَوْ قُرَشِيٍّ مِنْ مُشْرِكٍ ، فَقُلْ : أَرْسَلَنِي إِلَيْكَ مُحَمَّدٌ ، فَأُبَشِّرُكَ بِمَا يَسُوءُكَ ، تُجَرُّ عَلَى وَجْهِكَ ، وَبَطْنِكَ فِي النَّارِ قَالَ : قُلْتُ : يَا رَسُولَ اللَّهِ ، مَا فَعَلَ بِهِمْ ذَلِكَ وَقَدْ كَانُوا عَلَى عَمَلٍ لَا يُحْسِنُونَ إِلَّا إِيَّاهُ ؟ وَكَانُوا يَحْسِبُونَ أَنَّهُمْ مُصْلِحُونَ ؟ قَالَ : ذَلِكَ لِأَنَّ اللَّهَ عَزَّ وَجَلَّ بَعَثَ فِي آخِرِ كُلِّ سَبْعِ أُمَمٍ - يَعْنِي - نَبِيًّا ، فَمَنْ عَصَى نَبِيَّهُ كَانَ مِنَ الضَّالِّينَ ، وَمَنْ أَطَاعَ نَبِيَّهُ كَانَ مِنَ الْمُهْتَدِينَ"

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الصفحة أو الرقم: 5/72 | خلاصة حكم المحدث : غريب جدا وألفاظه في بعضها نكارة

So let's convert 70 lunar years (the arab used lunar calculation in the past) to distance in km. Lunar year is only 354 days, 8 hours, 48 minutes, 34 seconds (354.367056 days). If we observe the moon from outside the solar system , we can see the moon is revolving a complete round around earth every 27.3 day , but because earth revolves around itself so we see the moon is completing the round every 29.5 day .

The moon revolves around earth a complete round every month, but because earth is also revolving around itself and in the same direction so that we see the month is 29.5 day but in fact it only takes 27.3 days for the moon to complete the round. The question is what is the traveled distance by the moon around earth in 70 years?

The determination of months and years is based on the movement of the moon. so the month for us is a one complete round for the moon around the earth. We know that the moon revolves one round every month around earth, so it will be 12 rounds in the year. God says in verse 36 of Surah at-Taubah- :«Verily, the number of months with Allah is twelve months»

In a simple calculation based on the real month, the moon travels 2152612.27 km around earth in a complete round. This distance represents the length of the orbit that the moon takes while a complete round during one month.

So the distance per year is: 2152612.27 × 12 = 25831347 km

And in 70 years are : 25831347 km × 70 = 1808194290 km. This is the altitude distance between each planet-jahannam which is the exponent x.

Let's now try

$T_h = T_0 e^{1.099 \times x} \times x$

-$T_h$ = the temperature of the planet (jahannam) at height h,
-$T_0$ = the temperature at reference point 0 (can be referring to the first jahannam planet level).
- 1.099 rate of temperature change in decimal as the distance increases (in percentage is 109,9%)
- x is the distance unit that can be in m or km or more.

Let's note here that x distance is the same as "h" height.

**2 - <u>The temperature</u>**

The temperature at reference point 0 could be considered as the combination letter «ʿAin-Sīn-Qāf»/عسق in surah Ash-Shura. The equation of those letters is derived as follow:

The combination«ʿAin-Sīn-Qāf» :

1. ʿAin = Ordinal number 18 in arabic alphabets;
2. Sīn = Ordinal number 12 in arabic alphabets;
3. Qāf = Ordinal number 21 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (18) of the combination to the second number (12) then from that second number to the third number (21).

«18/12/21». The arithmetic operations are:

- $18 - 6 = 12$.
- $12 + 9 = 21$.

Then, $-6 + 9 = 3$. The 3 can be written as a function: $f(1) = 3^1 \times 1$ which gives us the same result of letters combination «Ḥâ-Mĩm» function $f(2) = 3^2 \times 2$. In general it is the function: $f(x) = 3^x \times x$ Which can be converted to base e: $T_h = T_0 e^{1.099 \times x} \times x$.

So this function $f(x) = 3^x \times x$ models the exponential temperature rise from the Jahannam-planet 1 to Hawiya-planet 7. The following table will give you all levels functions.

Generally the flame temperature on earth varied between the cool flame 100 °C to the common highest temperature 5730 °C. The prophet mentioned in his narration that our earthy fire is 1/70 of hellfire temperature. So 100°C × 70 = 7000°C.

If we consider 7000°C the temperature at $T_{1(\text{planet-jahannam})}$ جَهَنَّم, then it will increase exponentially according to my function every increase of distance.

$$T_{(\text{planet})} = T_0 e^{1.099 \times x} \times x$$

We know from the Quran that the highest temperature is in the lowest planet vertically named "Hawiya" and the coolest one is the vertically toppest one named "Jahannam". It means the exponential increase of the temperature will be from $T_1$ to $T_7$.

The distance x from the 1st planet-jahannam to the 2nd one planet-Ladha is 1808194290 km and the same distance from the 2nd planet-Ladha to the 3rd planet-Saqar, etc. The distance 1808194290 km is considered as unit 1.

So

- 1808194290 km = unit 1 (x)
- 1808194290 km × 2 = 3616388580 Km = unit 2 (x)
- 1808194290 km × 3 = 5424582870 Km = unit 3 (x)
- 1808194290 km × 4 = 21698331480 Km = unit 4 (x)
- 1808194290 km × 5 = 9040971450 Km = unit 5 (x)
- 1808194290 km × 6 = 10849165740 Km = unit 6 (x)
- 1808194290 km × 7 = 12657360030 Km = unit 7 (x)

| The hell system function : $F(x) = 3^x \times x$ | | |
|---|---|---|
| X | F(x) or y | Exponential function $T_{(\text{planet})} = T_0 e^{1.099 \times x} \times x$ |
| 1. $T_{1(\text{planet-jahannam})}$جَهَنَّم<br>Jahannam - Hell - because of the depth of its pit. | «ʿAin-Sīn-Qāf»/عسق = 3 | $T_{1(\text{planet-Jahannam})}$<br>$7000°C = T_0 e^{1.099 \times 1} \times 1$<br>$T_0 = 2332.429128°C$ |

| | | |
|---|---|---|
| 2. $T_{2(\text{planet-ladha})}$ لَظَى<br>Ladha - blazing fire - because of its flames. | Ḥâ-Mĩm/حم = 18 | $T_{2\,(\text{planet-ladha})} = T_0 e^{1.099\times 2} \times 2$<br>= 42016.2920605916 °C |
| 3. $T_{3(\text{planet-saqar})}$ سَقَرُ<br>Saqar - because of the intensity of its heat | 81 | $T_{3\,(\text{planet-saqar})} = T_0 e^{1.099\times 3} \times 3$<br>= 189146.634351758 °C |
| 4. $T_{4(\text{planet-hutama})}$ الْحُطَمَةُ<br>Hutama - broken pieces or debris - because it breaks and crushes everything that is thrown into it. | 324 | $T_{4\,(\text{planet-hutamah})} = T_0 e^{1.099\times 4} \times 4$<br>= 756879.931453564 °C |
| 5. $T_{5(\text{planet-jaheem})}$ الْجَحِيمِ<br>Jaheem – fire - because of its blazing fire. | 1215 | $T_{5\,(\text{planet-jaheem})} = T_0 e^{1.099\times 5} \times 5$<br>= 2839400.3972788 °C |
| 6. $T_{6(\text{planet-sa'eer})}$ السَّعِيرِ<br>Sa'eer - blazing flame - because it is kindled and ignited. | 4374 | $T_{6\,(\text{planet-sa'eer})} = T_0 e^{1.099\times 6} \times 6$<br>= 10225805.3223323 °C |
| 7. $T_{7(\text{planet-hawiyah})}$ هَاوِيَةٌ<br>Hawiyah - chasm or abyss - because the one who is thrown into it is thrown from top to bottom | 15309 | $T_{7\,(\text{planet-hawiya})} = T_0 e^{1.099\times 7} \times 7$<br>= 35804197.6306164 °C<br>( three times hotter than the core of the sun's temperature 15 million degrees Celsius, 27 million degrees Fahrenheit). |

The different 7 hellfire planets are supposed to be "antimatter-terrestrial planets" since I said in my book "Mathematical interpretation of the holy Quran_volume1" that the after death phase is an antimatter universe and also because the punishment includes drinking very hot water and there are scorpions, serpents and tree of "zakum" that its fruit boil the stomach. All these elements can not exist on the gaseous planet.

Since the Quran tells us that hellfire will be full of humans and jinns (created from fire), the first most probable possibility is that every planet could be having hot areas to burn humans and cold areas to cool jinns as cold poles on earth. The second possibility is that some planets are entirely cold and some are entirely hot which is not probable because all hellfire gates' names refer to the hot and no one refers to the cold. The zamharīr (the extremely cold section of Jahannam) is the cold area of each planet.

The existence of cold and hot areas on the same time on each planet means that the source of heat is not only the core of the planet but also an external source on different distances from each planet like the sun in our solar system and these planet are rotating and orbiting the heat source which make alternative phases from extreme heat to extreme cold and each planet has a different atmosphere that affect the surface temperature. This leads us to the existence of time running that is supported by the verse 49 surah Ghafir:

49-«And those in the Fire will say to the keepers of Hell, "Supplicate your Lord to lighten for us a day from the punishment."»

"وَقَالَ الَّذِينَ فِي النَّارِ لِخَزَنَةِ جَهَنَّمَ ادْعُوا رَبَّكُمْ يُخَفِّفْ عَنَّا يَوْمًا مِّنَ الْعَذَابِ (49).

The day for God is like 1000 earthy years in verse 47 surah Al-Hajj:

47-"And they urge you to hasten the punishment. But Allah will never fail in His promise. And indeed, a day with your Lord is like a thousand years of those which you count."

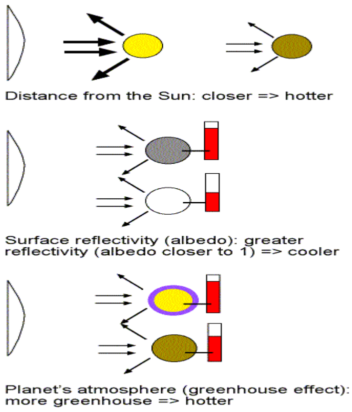
"وَيَسْتَعْجِلُونَكَ بِالْعَذَابِ وَلَن يُخْلِفَ اللَّهُ وَعْدَهُ ۚ وَإِنَّ يَوْمًا عِندَ رَبِّكَ كَأَلْفِ سَنَةٍ مِّمَّا تَعُدُّونَ"(47)

But the time running for hellfire punishment will be so long that would be as eternity. That is the notion of eternity, it is not the non existence of time but the endless time running for the planets but not for humans. Humans or jinns in hellfire or paradise don't grow up but time keeps running for the planets. The planet orbiting suggests that humans and jinns are subject to different kinds of punishment during one day, freezing punishment or burning punishment. The jinns can be punished by a fire hotter than them or by a freezing cold and the same double punishment is valid also for humans. The human that enters hell can burn during the day and freeze during the night. So my final idea supports the existence of a burning star like the sun to be one of the sources of heat on these 7 planets-jahannam.

Therefore, the surface temperature of a «hellfire-terrestrial-planet» is determined by how much energy the hellfire-planet receives from the heat source planet (like the sun) and how quickly it radiates that energy back to space. A terrestrial planet's interior temperature is determined by its size. The crust is a very poor conductor of any heat from the interior so the surface heat is all from the heat source planet. Jupiter, Saturn, and Neptune have extra heat energy coming from their interiors but they are gaseous and not terrestrial and hellfire planets can not be gaseous because no human can step on gas.

In our solar system recall about seasons, in order to keep the temperature the same, there must be a balance between the solar energy flowing onto the planet and the energy radiated back out to space.

On global scales, three things can affect this energy flow and therefore, the average global surface temperature. These three things are the same factor that play together to make the 7 hell-planets in different temperatures. As shown in the figure below, they are the planet's distance from the Sun, the planet's surface reflectivity (albedo), and the planet's atmosphere (through a process called the greenhouse effect).




**$2_A$-The distance from the sun**

Planets closer to the Sun receive more solar energy by an amount that depends on their distance squared. Also recall that hotter dense things produce more energy (they are brighter). With more solar energy flowing to the closer planets, they must be hotter to re-radiate that energy back out to space. The amount of solar energy reflected immediately out to space is determined by the material on the planet's surface or clouds in the atmosphere. The fraction of sunlight that is reflected from an object is the albedo. If the albedo is closer to 1 (100% reflectivity), the planet does not need to be as hot to have its outflow of energy balance the inflow of solar energy. Darker objects absorb more solar energy and, therefore, they need to heat up more to re-radiate that energy back out to balance the inflow of solar energy. For example, you probably notice the difference between wearing a white T-shirt vs. wearing a black T-shirt outside on a sunny, summer day. Another example is the liquid water in our oceans absorbs more solar energy than the ice areas at our poles.

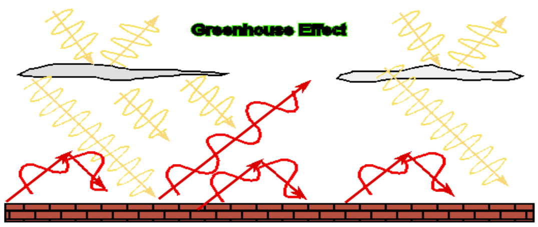
Let's pause here and find out what the surface temperature should be for some of the planets. The rate of energy absorbed by the planet equals (the absorbing area of the planet) x (brightness of sunlight at the planet's distance from the Sun) x (fraction of sunlight absorbed). The rate of energy radiated by the planet equals (the surface area of the planet) x (energy radiated by each square meter every second, which changes as temperature to the fourth power). Setting the rate of solar energy absorbed equal to the rate of energy radiated by the planet, you find using the values for the distances and albedo, that Mercury should have an average temperature of 160 deg

C, Venus should be -42 deg C, Earth should be -19 deg C, and Mars should be -63 deg C. Their actual temperatures are: Mercury = 425 deg C (day)/ -175 deg C (night) = midway value of 125 deg C; Venus = 464 deg C; Earth = 15 deg C; and Mars = -31 deg C (day)/-89 deg C (night) = midway value of -60 deg C. Mercury has such a large variation between day and night as well as a large variation between the daytime polar temperature of 317 deg C and daytime equatorial temperature of 452 deg C that the rather arbitrarily chosen midway value of 125 deg is close enough to the calculated value of 160 deg C.

The difference between actual temperature values and the calculated values for the other three planets are a bit more interesting because of the effect of their atmospheres. A planet's atmosphere can hinder the rate that energy flows outward to space from the warm ground so the ground must heat up to increase the energy leaking out enough to balance the inflow of solar energy. This blanket effect of the atmosphere is called the greenhouse effect. A planet's atmosphere can also hinder the rate that energy flows inward from space to the ground. The Moon and the Earth are at the same distance from the Sun but the Moon has a very large change in temperature from day to night due to the Moon's lack of an atmosphere. The Moon's surface temperature at its equator ranges from about 100 K (-173 deg C) at night to almost 400 K (127 deg C) during the day!

All these factors can explain the difference of temperature between the 7 hellfire-planets. So we can understand that the planet $P_{(hawiya)}$ is the closest one to the source-planet of heat and $P_{(jahannam)}$ is the farthest one.

**$2_B$-Greenhouse Effect**




Incoming *visible* light from the Sun (short wavelength) is either reflected back to space by clouds of liquid droplets or solid particles or makes it to the ground to heat it up. Visible light passes easily through $H_2O$ and $CO_2$ gases. Since the ground is much cooler than the hot Sun's surface, it reradiates the energy in the form of *infrared* light (long wavelength) instead of visible light. Greenhouse gases (like $H_2O$ and $CO_2$) and clouds reflect some of the infrared light back to the ground trapping the heat close to the surface. Some infrared light does escape back to space—otherwise the surface would continually get hotter and hotter.

The greenhouse effect is named after the glass houses used to keep plants warm during cold weather. Energy in the form of visible light from the Sun passes through the glass walls and glass roofs of a greenhouse and heats up the plants and soil inside the greenhouse. The air in contact with the plants and soil gets warmed up. The glass walls and roofs prevent the hot air from escaping to the outside. The same sort of thing happens to the interior of your car when you leave it out in the Sun with the windows rolled up.

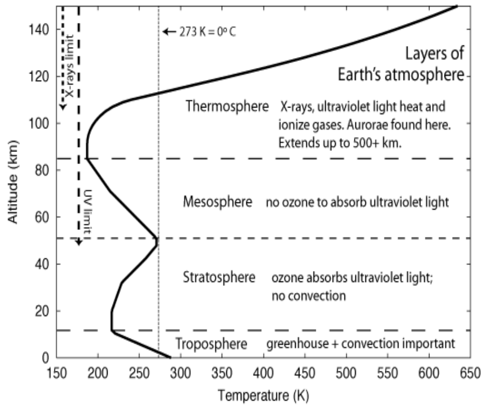
On a planet, certain gases like carbon dioxide or water vapor in the atmosphere prevent heat energy in the form of infrared light from leaking out to space. These so-called "greenhouse gases" allow visible light from the Sun to pass through and heat up the surface. A planet's surface is warm enough to emit infrared light. Some of the infrared light is absorbed by the greenhouse gases and radiated back toward the surface, warming the surface even more. Some of the energy is radiated back toward space. The surface warms enough so that the amount that does leak back out to space balances the solar energy flow inward. Note that if the greenhouse was a perfect blanket, then the surface would continue to get hotter and hotter. This could also explain why $P_{(hawiya)}$ is the hottest one because it might have too much carbon dioxide in its atmosphere.

The primary greenhouse gases found in the atmospheres of our solar system's planets are given in the figure below. Not shown are chlorofluorocarbons (CFC's) and hydrofluorocarbons (HFC's) that are synthesized by humans. On the Earth the relative amounts these molecules contribute to the total greenhouse effect occurring are approximately: 60% for water, 26% for carbon dioxide, 5% for methane, 4% for ozone, 4% for the CFC's/HFC, and 2% for nitrous oxide (rounding of the numbers to integer values means they will not add up to exactly 100%).

Now back to our three planets. Venus' actual temperature is over three times more than if there was no greenhouse effect at work. Earth has a natural greenhouse effect mostly caused by water vapor to raise the temperature by about 34 deg C so the oceans do not freeze. Mars has only a very slight warming because of its thin atmosphere.

**$2_C$-Atmosphere Structure**

Planet atmospheres have a layered structure based on how the temperature changes with increasing altitude. The greenhouse effect plays a major role for the lowest layer of a terrestrial planet's atmosphere and other heating agents can raise the temperature of the upper layers. In this section we will take a look at the Earth's atmosphere layers, then compare it to the other terrestrial planet atmospheres, and finally finish with the structures of the jovian planets atmospheres.




The figure above shows the bottom four layers of the Earth's atmosphere. (Standard model atmosphere from Steven Pietrobon at Small World Communications.) Here are short descriptions of each layer.

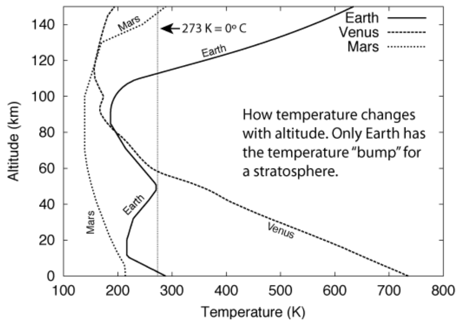
Troposphere: lowest layer (closest to the ground). The greenhouse effect is present in some amount. The temperature drops with increasing altitude because of more greenhouse heating lower down. Convection is important. In fact, without convection the temperature difference between the mountain tops and sea level would be even greater. The churning of the air by convection makes our storms. Ultimately, solar energy is what powers our storms. Clouds of water droplets and ice crystals are found here. Other planets will have clouds made of other molecules in here.

Stratosphere: where the temperature begins rising with increasing altitude above the troposphere. Ultraviolet light is absorbed by the ozone molecules in this layer. Ozone is the molecule made up of three oxygen atoms you came across in the greenhouse section above. It is beneficial to life when it is up in the stratosphere. Upon absorbing the ultraviolet light the fragile ozone molecules break apart then they re-form later when an oxygen atom combines with an oxygen molecule to complete the cycle. The absorption of the ultraviolet light is why the temperature increases. Ozone in the stratosphere is considered "good ozone" because of its shielding effect. Ozone in the troposphere is considered "bad ozone" because it causes respiratory problems and other negative health effects as well as being destructive to organic materials such as plastics.

Mesosphere: where the temperature begins falling again with increasing altitude above the stratosphere because there is no ozone to absorb the ultraviolet light.

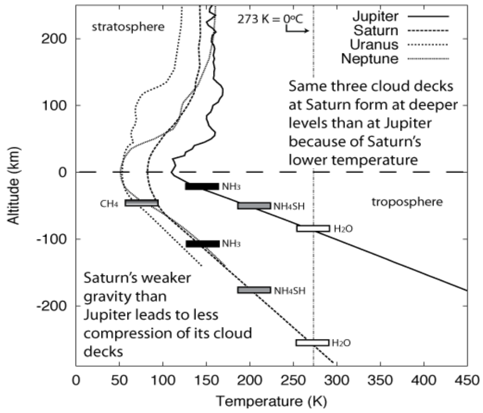
Thermosphere: where the temperature begins rising again with increasing altitude as the gases absorb X-rays and some ultraviolet light and heat up. No X-rays reach below the thermosphere. The X-rays have enough energy to knock electrons out of atoms making the atoms charged, a process called ionization. Where the ionization happens the most is called the ionosphere, a layer important for radio communication because the radio waves reflect off this layer and enable them to travel beyond the line-of-sight horizon. Aurorae occur in this layer (described in a later section).

Exosphere: the uppermost layer where the gases escape to space at about 500 kilometers or so from the Earth's surface. Very low density gases heated by X-rays and ultraviolet light. Mercury and the Moon technically also have exospheres but their exospheres begin right at their surfaces.




Both Mars and Venus have tropospheres of greater extent than the Earth, though for different reasons. Mars' atmosphere is much thinner than Earth's and there is less compression because of Mars' weaker gravity. Although Venus has weaker gravity than Earth, it has over ninety times the amount of atmosphere because of a runaway greenhouse effect that occurred at least hundreds of millions of years ago. That does provide a warning to us that drastic global climate change is possible. Because their tropospheres extend over a greater distance than the Earth's troposphere, Mars' and Venus' clouds are found at higher altitudes. Mars and Venus also have thermospheres. What is missing is the temperature bump of a stratosphere (and mesosphere) because they do not have an ozone layer to absorb the ultraviolet light.
Jupiter's troposphere extends much further down merging smoothly into its interior. Mixed in with the abundant molecular hydrogen and helium are trace amounts of ammonia, water, and methane. Even smaller amounts of hydrogen sulfide (the stinky stuff of rotten eggs), other hydrogen polysulfides, and phosphorus are also present. Ammonia and hydrogen sulfide will mix together in water to make ammonium sulfide. Molecules of ammonia, ammonium hydrosulfide, and water will form droplets (condense) when the temperature is low enough. They will condense (and freeze) at different temperatures, though, so clouds of these molecules will form at different depths in the troposphere. There are three main cloud decks on Jupiter. Water condenses at a higher temperature than the other two, so water clouds are thought to exist at the deepest cloud layer. Higher up the temperature is low enough for the ammonium hydrosulfide to condense. Finally, just below the upper bound of the troposphere, the temperature is cold enough for ammonia to condense. Note that the cloud layers mark the upper bound of that type of molecule in the hydrogen/helium atmosphere.

The Galileo spacecraft dropped a probe into Jupiter's atmosphere when it arrived at Jupiter in December 1995. The probe got down to a depth of 161 km below the cloud tops before the probe stopped functioning because of high pressures and temperatures. At that depth the pressure was 22 bars and the temperature about 425 K. The Galileo probe should have penetrated to where the water vapor is but it did not find the water. Unfortunately, the probe entered one of the clear, dry areas produced by downdrafts. Despite that the probe got over 160 km below the cloud tops, it was still in the troposphere and its deepest point represents just 0.3% of Jupiter's radius. Above the troposphere of Jupiter, ultraviolet heating makes a stratosphere but other molecules instead of ozone absorb the ultraviolet light. At the highest levels are the thermosphere and the exosphere.




Saturn has the same three main cloud decks, though they are found at lower altitudes than on Jupiter because of Saturn's lower temperature (it is further from the Sun). Also, Saturn's cloud decks are further apart from each other because of Saturn's lower gravity, there is less compression of the gases. Because Saturn's clouds form at deeper positions in its troposphere, its cloud patterns appear more muted than on Jupiter. It is thought that the three cloud decks (of ammonia, ammonium hydrosulfide, and water) would be found much too deep in the tropospheres of Uranus and Neptune for us to see. Instead, Uranus and Neptune being even further from the Sun have cold enough tropospheres for methane to condense and freeze to form clouds (Jupiter and Saturn are too warm for methane clouds). Neptune has extra heat energy from its interior so its atmosphere temperature is warmer than Uranus.

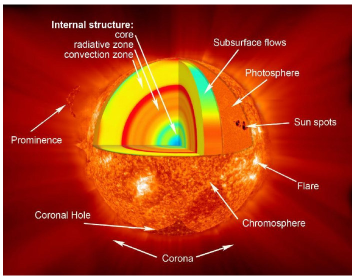
All these solar system characteristics can be found in the hellfire antimatter system but with different measurements. The Quran does not precise these measurements but we can understand that hellfire is not a mystical imaginative notion but it could be a system like the solar system in an antimatter universe. What is the planet-source of heat ? We don't know. What are the speed of the 7 hellfire-planets orbits and rotation ? We don't know how the three factors of heat [the hellfire-planet's distance from the planet-source of heat, the hellfire-planet's surface reflectivity (albedo), and the hellfire-planet's atmosphere( through a process called the greenhouse effect)] interact between each other to make the temperature change exponentially from one to another and the freeze drops exponentially from one to another. But we can say that it is very probable that the hellfire talked about in the Quran and prophet's narrations is a hell system composed of planets that looks like our solar system and not a mysticism as professor Christian Lange thinks in his book Locating Hell in Islamic Traditions.

The last question I estimate important to be answered is : Why did I set $T_0 = 7000°$ $(100° \times 70)$ ? The prophet said that the hell temperature is 70 times the worldly fire temperature 100°. But in my analysis I set a different temperature of each of the 7 planets and all these temperatures are > 7000°.

I think that the $T_0$ is the temperature of the planet-source of the heat 7000° (as the sun in the solar system). You will say how is it possible for a planet-source of heat to be 7000° and heat up the planet $T_{7\,(planet\text{-}hawiya)} = T_0 e^{1.099 \times 7} \times 7 = 35804197.6306164$ °C ?

The answer is that the 7000°C may be just the temperature of the photosphere or chromosphere of that star but the corona of the star-source of heat (I call it "firestar" : star of fire) can be much hotter exactly as for the sun.

The temperature of the sun varies tremendously, and not in ways you might realize. So, how hot is the sun?




There is a nuclear fusion in the core. At the core of the sun, gravitational attraction produces immense pressure and temperature, which can reach more than 27 million degrees Fahrenheit (15 million degrees Celsius). Hydrogen atoms get compressed and fuse together, creating helium. This process is called nuclear fusion.

Nuclear fusion produces huge amounts of energy. The energy radiates outward to the sun's surface, atmosphere and beyond. From the core, energy moves to the radiative zone, where it bounces around for up to 1 million years before moving up to the convective zone, the upper layer of the sun's interior. The temperature here drops below 3.5 million degrees F (2 million degrees C). Large bubbles of hot plasma form a soup of ionized atoms and move upward to the photosphere.

Then the temperature in the photosphere is about 10,000 degrees F (5,500 degrees C). It is here that the sun's radiation is detected as visible light. Sunspots on the photosphere are cooler and darker than the surrounding area. At the center of big sunspots the temperature can be as low as 7,300 degrees F (4,000 degrees C).

The chromosphere, the next layer of the sun's atmosphere is a bit cooler — about 7,800 degrees F (4,320 degrees C). According to the National Solar Observatory (NSO), chromosphere literally means "sphere of color." Visible light from the chromosphere is usually too weak to be seen against the brighter photosphere, but during total solar eclipses, when the moon covers the photosphere, the chromosphere can be seen as a red rim around the sun.

"The chromosphere appears red because of the large amount of hydrogen present," the NSO says on its website.

Temperatures rise dramatically in the corona, which can also only be seen during an eclipse as plasma streams outward like points on a crown. The corona can get surprisingly hot, comparable to the body of the sun. Temperatures range from 1.7 million degrees F (1 million degrees C) to more than 17 million F (10 million degree C), according to the NSO.

"The corona is incredibly hot, hundreds of times hotter than the layers below," Bernhard Fleck, a European Space Agency project scientist for NASA's Solar and Heliospheric Observatory (SOHO) said in a statement. "Since the sun's source of energy is at the center, on a simple level, we would expect the corona — the outermost layer — to be the coolest." SOHO is just one of several solar missions exploring this and other mysteries.

# Chapter VI
# Ṭā Hā (طه)
# Ṭā’ Sīn (طس)
# Ṭā Sīn Mīm (طسم)

## Part I
## Ṭā Hā (طه)

### I- The equation

The letters combination «Ṭā Hā» can be transformed to numbers combination (16,26). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination «Ṭā Hā» :
1. Ṭā = Ordinal number 16 in arabic alphabets;
2. Hā = Ordinal number 26 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (16) of the combination to the second number (26).

The combination «Ṭā Hā» can be written «16/26».

«16/26». The arithmetic operation is:

- 16 + 10 = 26.

The equations that can equal to 10 are many but which one is the model wanted by the surah ? To find it we need a lot of trial and reflection.

10 can be written $10^1 = 10$ which is the equation: $x^1 = x$. The function is $f(x) = x^1$

These letters were the opening of surah named Ṭā Hā.

طه (1) مَا أَنزَلْنَا عَلَيْكَ الْقُرْآنَ لِتَشْقَىٰ(2)

1-Ṭā, Hā.
2-We have not sent down to you the Qur’ān that you be wretched.

This surah in verses 102-104 says :

يَوْمَ يُنفَخُ فِي الصُّورِ ۚ وَنَحْشُرُ الْمُجْرِمِينَ يَوْمَئِذٍ زُرْقًا (102) يَتَخَافَتُونَ بَيْنَهُمْ إِن لَّبِثْتُمْ إِلَّا عَشْرًا (103) نَّحْنُ أَعْلَمُ بِمَا يَقُولُونَ إِذْ
يَقُولُ أَمْثَلُهُمْ طَرِيقَةً إِن لَّبِثْتُمْ إِلَّا يَوْمًا(104).

102-"The Day the Horn will be blown. And We will gather the criminals; that Day blue-eyed."
103-"They will murmur among themselves, "You remained not but ten [days in the world]."
104-"We are most knowing of what they say when the best of them in manner [i.e., wisdom or speech] will say, "You remained not but one day."

These verses 102-104 set an inequation that is $1 < 10$ $(1 \neq 10)$ which can be transformed to $x > (\frac{x}{10})$ and its function is the function $g(x) = (\frac{x}{10})$. Recall our first equation which is $10^1 = 10$ [$f(x) = x^1$]. Now we can set our inequality to $x^1 > \frac{x}{10}$.

The verses 102-104 that announcing the inequation $x^1 > \frac{x}{10}$ were given different interpretations by scholars. Some said that the 10 days and 1 day estimation that the criminals calculated was about the time they remained living on earth and some other scholars interpreted it as the time duration spent in the tomb underground after death.

I will prove to you readers, that these verses are about time spent in the tomb after death. We arrived to the result that the verses 102-104 with the verse 1 set an inequality $x^1 > \frac{x}{10}$. Inequality can be interpreted according to the context. The context is that this group of criminals after resurrection calculated their remaining before resurrection 10 days and the best of them to calculate estimated that time duration was 1 day. The translation of their physical description «زُرْقًا» was given « blue-eyed».

My understanding is that the bluish color is the color of their skin. All of them were blue like color. Why did God give us this detail about them before he informed us about their calculation of time they remained before their resurrection ? And why this inequality in their two estimations?

From the context of the verses we can understand that the 10 days was given by the group as a maximum limit of time duration they may have spent before they get resurrected and then the best of them in mathematics (أَمْثَلُهُمْ طَرِيقَةً/the best of them in manner) added another minimum limit to that time period.

This converts my inequality $x^1 > \frac{x}{10}$ to an interval $[\frac{x}{10}, x]$. You may ask: an interval for what ?

If you study the postmortem (after death) stages of the body decomposition changes you will notice the importance of these calculations of 1 day (24 hours) and the 10 days and their relation to bluish color of the body skin after death.

Decomposition of an exposed cadaver is a continuous process, beginning at the moment of death and ending when the body is reduced to a dried skeleton. Traditional estimates of the period of time since death or post-mortem interval have been based on a series of grossly observable changes to the body, including livor mortis, algor mortis, rigor mortis and similar phenomena. More recently, insects, mites and other arthropods have been increasingly used by law enforcement to provide an estimate of the post-mortem interval. Although the process of decomposition is continuous, it is useful to divide this into a series of five stages: Fresh, Bloated, Decay, Postdecay and Skeletal. Here these stages are characterized by physical parameters and related assemblages of arthropods, to provide a framework for consideration of the decomposition process and acarine relationships to the body.

There are many factors that can delay decomposition. Apart from the various organisms involved in the process of decomposition, there are also several types of factors that serve to stop or retard the rate at which the process continues. These barriers to decomposition fall into three broad categories. The first is the physical barriers to decomposition that are those that prevent access of the body by physical means. A body buried in the soil does not decompose as quickly as one exposed on the surface. In a similar manner, a body enclosed in a sealed casket or placed into some form of sealed container will also exhibit a delayed decomposition. The second is the chemical barriers, the embalming process is specifically designed to prevent the decomposition of the body, with natural body fluids being drained and replaced with various preservative fluids. As the body is then typically placed into a casket, the process should, if done properly, delay decomposition for an extended period of time. The presence of insecticides on, in or near the body may also serve to delay the onset of insect activity for a period of time. It should be noted that insecticides will not permanently delay the colonization of the body by insects. In many cases, immature insects are able to survive on a body with concentrations of an insecticide that would prove fatal to the adults of the same species. The third factor is the climatic factors, temperature can serve as a major factor delaying decomposition. At lower temperatures, bacterial growth and insect activity can be retarded or even arrested. At temperatures below 6°C most insect activity ceases but may resume once temperatures rise above this threshold. In a similar manner, high temperatures will also result in cessation of insect activity, and, if in a dry habitat, result in mummification of the body. Wind also serves to inhibit insect flight and thus colonization of the body. Many texts will indicate a wind speed in excess of 16 km/h will inhibit insect flight. This should not be accepted as a firm wind speed as in many tropical and island areas, tradewinds typically blow at a speed greater than this and there is significant insect activity. Rainfall may also serve as a temporary barrier but, once the rain ceases, the insects again become quite active.

## II- <u>The end of the world: The human life length on earth</u>

The body decomposition timeline is like follows:

After death there are five stages of decomposition that human and animal remains go through as the materials they are made of return to the earth.

**Stage 1: Fresh - 0 to 3 days after death**

The first stage of human decomposition is called autolysis, or self-digestion, and begins immediately after death. As soon as blood circulation and respiration stop, the body has no way of getting oxygen or removing wastes. Excess carbon dioxide causes an acidic environment, causing membranes in cells to rupture. The membranes release enzymes that begin eating the cells from the inside out.

Rigor mortis causes muscle stiffening. Small blisters filled with nutrient-rich fluid begin appearing on internal organs and the skin's surface. The body will appear to have a sheen due to ruptured blisters, and the skin's top layer will begin to loosen.

As soon as death occurs, the body temperature starts cooling to match the surrounding temperature around it. Without blood and oxygen flow, muscular tissues become rigid and the blood pools into the lower extremities. Then, as the bacteria in the intestines devour the intestinal walls, cells lose their structural integrity and cellular enzymes are released to begin breaking down the cells themselves and surrounding tissues. Microbes also start breaking down carbohydrates, proteins, and lipids. Most of this breakdown occurs inside the body and is not visible from the outside. At the end of this stage, blowflies and flesh flies arrive to lay eggs.

Livor mortis, or lividity, refers to the point at which a deceased person's body becomes very pale, or ashen, soon after death. This is due to the loss of blood circulation as the heart stops beating.

The blood begins to settle, by gravity, to the lowest portions of the body," causing the skin to become discolored. This process may begin after about an hour following death and can continue to develop until the 9–12 hour mark postmortem.

The Livor mortis is a post mortem discoloration of the skin, resulting from blood pooling into the interstitial tissues under the force of gravity. It occurs at least 30 minutes to 2 hours after onset of death and maximum observed at 6–12 hours. The intensity of color depends on the amount of hemoglobin in the blood:

- **Bluish-purple (زُرْقًا)**: normal lividity;
- Greenish-red: hydrogen sulfide (produced in decaying organic matter);
- Dark brown: phosphorus poisoning;
- Brownish-red: poisoning with methemoglobin-forming substances (such as nitrite or aniline);
- Pale pink (barely pronounced): blood loss, severe anemia, severe hemorrhage;
- Cherry red: carbon monoxide poisoning;
- Bright red: cyanide poisoning.

**Stage 2: Putrefaction - 4 to 10 days after death**

**$2_A$ - Bloating**

4-5 days after death — the body starts to bloat and blood-containing foam leaks from the mouth and nose.

Leaked enzymes from the first stage begin producing many gases. The sulfur-containing compounds that the bacteria release also cause skin discoloration. Due to the gases, the human body can double in size. In addition, insect activity can be present.

The microorganisms and bacteria produce extremely unpleasant odors called putrefaction. These odors often alert others that a person has died, and can linger long after a body has been removed.

As bacteria multiply and process bodily materials, they produce gasses such as methane, carbon dioxide, nitrogen, and hydrogen sulfide which bloat the body. These gasses build up pressure in the body and push fluids out through natural openings including the mouth, nose, and anus. If insects are present, maggots begin to hatch and feed on body tissues causing the skin to slip, the hair to detach, and the surface to rupture. These additional openings provide even more surface area for insects and bacteria, thereby quickening the decaying process. This emitting of gasses and fluids is what causes the greatest amount of odor during the decaying process.

The purple-greenish tint ( looks like the bluish tint/زُرْقًا) that the body may assume after death is due to the fact that gases accumulate within its cavities, a significant component of which is a substance known as hydrogen sulfide. With the hemoglobin in blood to form sulfhemoglobin, or the greenish pigment that gives dead bodies their uncanny color.

Notice that the purple-greenish (or bluish) of the skin does not occur from hour 1 to hour 24 (1 day) after death. The bluish color of the skin appears only after 24 hours of the death.

**$2_B$ – Active Decay**

8-10 days after death — the body turns from green to red as the blood decomposes and the organs in the abdomen accumulate gas.

Fluids released through orifices indicate the beginning of active decay. Organs, muscles, and skin become liquefied. When all of the body's soft tissue decomposes, hair, bones, cartilage, and other byproducts of decay remain. The cadaver loses the most mass during this stage.

It's during the active decaying process the most body mass is lost due to bacteria and insects processing the body material along with liquids being released into the surrounding environment. During this stage, the area of decomposition expands into the surroundings and the most insects are present while they feed on bodily fluids. This stage ends when the maggots leave the body.

A phenomenon known as "marbling" occurs when certain types of bacteria found in the abdomen "migrate" to the blood vessels, causing them to assume a purple-greenish tint (looks like the bluish tint/زُرْقًا). This effect gives the skin on some body parts — usually the trunk, legs, and arms — the appearance of marble (hence its name).

**Stage 3: Black putrefaction - 10 to 20 days after death**

The bloated body eventually collapses, leaving a flattened body whose flesh has a creamy consistency. The exposed parts of the body are **black** in colour and there is a very strong smell of decay.

A large volume of body fluids drain from the body at this stage and seep into the surrounding soil. Other insects and mites feed on this material.

The insects consume the bulk of the flesh and the body temperature increases with their activity. Bacterial decay is still very important, and bacteria will eventually consume the body if insects are excluded.

We can notice from this stage that 10 days are the limit after which the skin color is no more bluish but becomes black. The skin bluish color occurs from hour 24 after death and can last until day 10 maximum. And that is why the criminals in the verse thought they remained dead for 10 days because they noticed that their skin color was still bluish and that color is not possible 10 days after death. The other member of the criminals who had better calculation method made a smart remark that they could have remained dead only 1 day (24 hours) because their skin bluish color could occur in a time interval from 1 to 10 days [1,10] which I wrote it interval [ $\frac{x}{10}$, x].

It's true that those criminals may have remained underground for thousands of years or may be less or more but when they are resurrected they see their body still intact, they think that their body never decayed after death because the decay starts generally after 10 days of death. Actually the criminals were talking on the tongue of all human species and not only about themselves. This means that for all humans from adam the first created to the last human the time they remained buried underground is between [ $\frac{x}{10}$ ,x]. When the criminals were talking they were in the God's time reference. The 1 day and 10 days interval they mentioned was God's time. We know from verse 47 surah Al-Hajj that 1 day in God's calculation = 1000 years of earth time calculation. This makes the 10 days of God's calculation = 10000 years of our earth calculation. Then the $\frac{x}{10}$ = 1000 earth years and the x = 10000 earth years.

The interval left small limit $\frac{x}{10}$ is in concordance with adam age which is 1000 years. When Adam died at the age of 1000 years —we suppose he is the first human to die and be buried before his son abel— he was buried at year 1000 ( $\frac{x}{10}$ ) which is 1 day in God's calculation and he will remain buried underground until the year 10000, when he will be resurrected he will say "I remained 9 days (9000 years) pronouncing by that the largest number possible inside the interval of remaining underground. The last human to die would be a single or a group that will say " we remained 1 hour" in the verse 45 surah yunus:

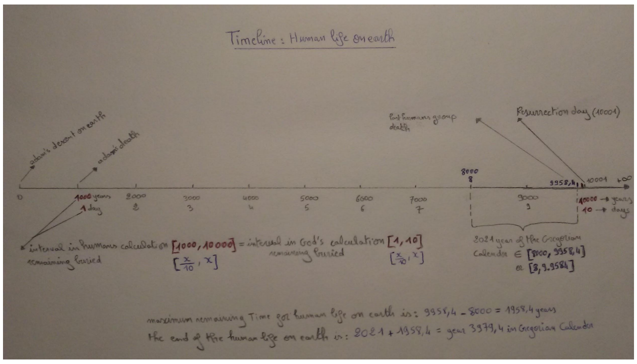
45-"And on the Day when He will gather them, [it will be] as if they had not remained [in the world] but an hour of the day, [and] they will know each other. Those will have lost who denied the meeting with Allah and were not guided."
وَيَوْمَ يَحْشُرُهُمْ كَأَن لَّمْ يَلْبَثُوا إِلَّا سَاعَةً مِّنَ النَّهَارِ يَتَعَارَفُونَ بَيْنَهُمْ ۚ قَدْ خَسِرَ الَّذِينَ كَذَّبُوا بِلِقَاءِ اللَّهِ وَمَا كَانُوا مُهْتَدِينَ (45)

This 1 hour of course it is said in the God time reference in the hereafter. To know how much time equals that 1 hour on earth time we use the rule of verse 47 surah Al-Hajj that says 1 day in God's calculation = 1000 years of earth time calculation. We obtain 1000 years ÷ 24 hours = 41.6 years in earth time reference. This last human to die represents the smallest number possible inside the interval of remaining underground.

So now we have :

1. Interval date ]0 years, 999 years] no one had died yet and all humans are still living;
2. Adam died at year 1000 and will remain buried for a duration of 9000 years until year 10000. Here duration been buried 9000 $\in$ to the general underground interval date [1000,10000] under the form [ $\frac{x}{10}$, x];
3. The last group of humans died in the year 9958.4 (41.6 years before the year 10000). Here they will remain buried for a duration of 46.1 years or 1 hour in God's time and the duration been buried 46.1 $\in$ to the interval date [9958.4,10000] which $\subset$ the general underground date interval [ $\frac{x}{10}$, x];
4. All humans that died after adam ( after year 1000) and before the last human to die (before year 9958.4) will remain buried in a date interval [1001, 10000], the duration been buried vary from person to person but it $\in$ to the duration interval [41.7 years ,8999 years] $\subset$ the general underground interval date [1000,10000] under the form [ $\frac{x}{10}$, x];

5. In the year 10001 all humans will be resurrected out of underground burial. The interval time is [10001,∞[.




These 5 elements graphed on timeline show how human species remained underground in an interval date time [1000,10000] that is the interval form I deduced from the Quran $[\frac{x}{10}, x]$.

Definitely scientists were talking about earth time when they set the interval [1 earth day, 10 earth days] for the cadaver to turn into bluish color but we can change the time unit to god time [1 god's day, 10 god's days] for the skin discoloration because the people who were resurrected in the verse were bluish color and were talking within the God time reference. By changing the time reference we arrive at an amazing result about human time on earth and we can predict the end of human life length on earth. Remember that scholars tried to sum all the times durations between the first prophet Adam up until today 2021 and they got an imprecise approximate number for the human life length on earth ±10000. I reject duration > 10000 because my interval time is ≤ 10000 in $[\frac{x}{10}, x]$. And I admit the duration < 10000.

The 10000 years are the duration time that is running from prophet Adam, the first «modern human » until the day of resurrection of all humans. Modern humans are the species of humans that have the Geedon soul particle in its physical composition. All creatures that their existence was discovered and proved before 10.000 years that might have relation with humans had no Geedon particle in their composition.

The final conclusion: life on earth for all humans will last 10 days in God time calculation, 10000 years in earth calculation.
If humans can not exceed on earth from Adam until 2021 a duration of 10000 years, then if we take into account the date of the death of the last group in year 9958.4 we can confirm that modern human beings have lived on earth a duration < 9958,4 years. Other scholars researchers state that humans have lived until 2021 between [6000,10000], I would take the half of that

interval as a best approximation 8000 years. If the 8000 years is true then humans will live another 1958,4 years from 2021 and their end will be by the latest in year 3979,4.

**Stage 4: Butyric fermentation - 20 to 50 days after death**

This stage is when all byproducts of decomposition have dried up and only the skeleton and perhaps some hair are left. Beetles and flies eat anything softer that remains, and mites and moth larvae digest the hair. Exposed to the elements, the bones lighten in color and are eventually reclaimed by the earth.

All the remaining flesh is removed over this period and the body dries out. It has a cheesy smell, caused by butyric acid, and this smell attracts a new suite of corpse organisms.

The surface of the body that is in contact with the ground becomes covered with mould as the body ferments.

**Stage 5: Dry decay - 50-365 days after death**

The body is now dry and decays very slowly. Eventually all the hair disappears leaving the bones only.

# Part II
# Ṭā᾿ Sīn (طس)

## I- The equation

The letters combination «Ṭā Sīn» can be transformed to numbers combination (16,12). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination «Ṭā Sīn» :

3. Ṭā = Ordinal number 16 in arabic alphabets;
4. Sīn = Ordinal number 12 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (16) of the combination to the second number (12).

The combination «Ṭā Sīn» can be written «16/12».

«16/12». The arithmetic operation is:

- $16 - 4 = 12$.

The combination letters «Ṭā Sīn» is the opening of the surah An-Naml :

طس تِلْكَ آيَاتُ الْقُرْآنِ وَكِتَابٍ مُبِينٍ (1)

1-"Ṭā, Sīn. These are the verses of the Qur'ān [i.e., recitation] and a clear Book"

$-4$ is a negative number that can be written in an equation : $x^2 = -4$.

To solve for x, we say $x = \sqrt{-4}$

- is equal to $\sqrt{4 \cdot -1}$
- which is equal to $\sqrt{4} \cdot \sqrt{-1}$
- which is equal to $2 \cdot \sqrt{-1}$
- which is equal to $2i$

So what is the square root of -4?

There are actually two such square roots,
→ one simpler (2i)
→ the other slightly more complex (-2i).

But since the question was "What is the square root of –4?" most people would just give one answer (2i).

(2i) is what we call the «principal» square root of –4. In this particular case, (-2i) is a second square root. Square roots have two roots.

Recall that by definition

a number "x" is a square root of the number "a" if

$x^2 = a$.

Now, what are the numbers whose square is -4 ?

Of course there are no real numbers which satisfy the equation $x^2 = -4$, as the square of a real number is never negative. In this sense, the square root of -4 does not exist.

However, in the realm of complex numbers the equation indeed is solvable. In this case, by definition "i" is a complex number with the property that

$i^2 = -1$.

Thus,

$(2i)\times(2i) = 4 \times i^2 = -4$

How many solutions are there?

It is easy to check that one also has

$(-2i)\times(-2i) = 4 \times i^2 = -4$

so -2i is also a square root of -4.

Are there other solutions? One way to prove that there are no other solutions is to factor the polynomial: by using that $a^2 - b^2 = (a+b)\times(a-b)$ one gets

$x^2 + 4 = (x - 2i)\times(x+2i)$

hence if $x^2 + 4 = 0$ then either $x + 2i = 0$ or $x - 2i = 0$. Thus, there are precisely two square roots, namely 2i and -2i.

What do the imaginary number "i" have to do with our surah An-Naml ?

The link is very smart. In verse 10 it says :

وَأَلْقِ عَصَاكَ فَلَمَّا رَآهَا تَهْتَزُّ كَأَنَّهَا جَانٌّ وَلَّى مُدْبِرًا وَلَمْ يُعَقِّبْ يَا مُوسَى لَا تَخَفْ إِنِّي لَا يَخَافُ لَدَيَّ الْمُرْسَلُونَ (10).

10-"And [he was told], "Throw down your staff." But when he saw it writhing as if it were a snake, he turned in flight and did not return. [Allah said], "O Moses, fear not. Indeed, in My presence the messengers do not fear."

In this verse the stick was transformed to a snake that was actually vibrating as a wave. Was the snake a mechanical (transverse or longitudinal) wave or an electromagnetic wave ? Mechanical waves require a substance to travel through whereas electromagnetic waves like light don't. Examples of transverse and longitudinal waves are things like water waves, sound waves, or waves that travel along a spring or rope.

In a transverse wave the substance or ‘medium’ moves perpendicular to the direction of the motion of the wave. Transverse waves cannot propagate in a gas or a liquid because there is no mechanism for driving motion perpendicular to the propagation of the wave. Was the snake of the prophet moses propagating on the ground ‘medium’ and that propagation made the prophet to fear it and turn in flight?

The issue of this transformation of the stick to a snake vibrating can not be resolved with classical physics, but has to be addressed with quantum physics.

## II- <u>The quantum Geedon-photon wave</u>

### 1- <u>What is the amplitude of a quantum wave</u>

The amplitude of a water wave is just the height of the water level above or below the mean water level. The amplitude of a light wave is just the strength of the electric and magnetic fields that comprise it.

But what is the amplitude of a wave in quantum theory that represents a particle?

The amplitude of a quantum wave is a complex number. Such a number is a sum of two parts: an ordinary real number and an "imaginary number." An imaginary number is some multiple of i, the square root of minus one.

So the amplitude of the wave can be things like 1, i, -1, -i and their multiples and sums, such as 1+i, 1-i, 37+23i, and so on. The snake wave is not my focus because it is a mechanical wave. The stick transformation into a snake was caused by a quantum Geedon-photon wave which is my focus.

Imaginary Numbers?

If you have not seen it before, it will seem perverse to take the square root of minus one seriously. Don't we all learn that :

"(plus) x (plus) = (plus)" and

"(minus) x (minus) = (plus)" ?

So how can there be a number that, when multiplied by itself, gives us -1 ? If the number is negative, it will give us a positive number when multiplied by itself. If it is positive, the same will happen.

$$i = \sqrt{-1}$$

The simple answer is that all these worries are well placed for ordinary "real" numbers like 2, 7, -4.3, and so on. But "i" is a different sort of number. It is not a real number. It is an extension to the real number system.

Can we add to the number system? Yes, we do it all the time. It is fine as long as we are clear about the properties of the extension.

Negative numbers are a familiar example of how we extend our number systems. If we think of natural numbers as just a way of counting things like apples in a basket, then we can make sense of the number 3: there are just 3 apples in the basket.

But what about -3 ? How can we make sense of -3 apples in the basket ? We can and do manage by thinking of "-3 apples" as an intermediate in calculation, such as in the sample problem opposite.

All we need to know is that the "-3" apples number has the key property that -3+7 = 4. That is, -3 when added to another number, cancels out 3 positive units.

-3 + 3 = 0

The situation is the same with the imaginary number i. We will never have an imaginary distance in space or an imaginary time elapsed. However "i" will be very useful to us as an intermediate. What we need to know is that its defining formal property is just this:

$$i^2 = -1, i = \sqrt{-1}$$

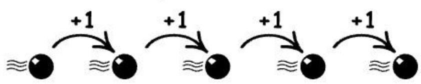
We can mostly treat "i" as we would any other number. We can add up i's. i + i + i = 3i. We can multiply them by real numbers. 5 x 3i = 15i.
We can create complex numbers by adding real and imaginary numbers: 3 + 7i.

However there are some manipulations that do not go as you'd expect and these are used to generate recreational paradoxes.

**2- <u>Change in time of a classical system</u>**

It will turn out that "i" is very useful for us when we want to represent how waves propagate in space according to quantum theory. And then will know that the Geedon-photon wave was not vibrating as a classical mechanical wave but as a quantum wave.

To see how that comes about, we will first look at a very simple classical system. Imagine a classical particle moving at unit speed in some fixed direction. Say it starts at some position we label x=0. We can keep track of its position at subsequent times merely by adding one unit of distance to the position for each unit of time elapsed.



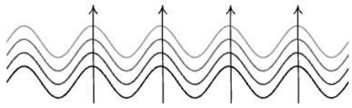

The rule of evolution in time is a simple "add one for each unit of time."

Later particle position = distance moved (one for each unit of time)+Initial particle position.

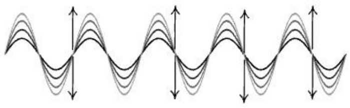
**3- Change in time of a quantum wave**

When a wave of constant wavelength propagates, it maintains its shape but just shifts its location. Would it be possible to have a comparably simple rule for the time evolution of this wave?

Simply adding to the wave's amplitude does not work. It merely shifts the wave amplitude up. It doesn't move the wave in the direction of its motion. The wave peaks and troughs stay where they are.



What about multiplying the wave by some factor? That seems to work no better. Each time we multiply the wave amplitude by a number, we just increase the height of the peaks and the depth of the troughs without moving them in space.



It turns out that multiplying by a factor is very close to what we need to move the wave forward in time. Where it goes wrong is that we are (tacitly) using real numbers as amplitudes. Keep multiplying a positive real number by the same factor and the positive numbers keep getting bigger and the negative ones keep getting smaller. The wave doesn't move.

If however, the wave has a complex amplitude, then multiplication can have exactly the right effect. This comes from the peculiar properties of i. Let's start with 1 and keep multiplying it by i. We get

$1 \times i = i$

$i \times i = -1$

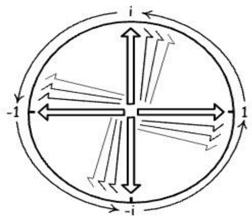
$-1 \times i = i \times i \times i = -i$

$-i \times i = i \times i \times i \times i = 1$

That is, repeatedly multiplying by i leads us to cycle from 1 to i to -1 to -i and then finally back to 1.

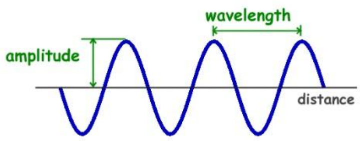
We now have cyclic behavior that would not be possible just by multiplying a real number amplitude by the same real number over and over. This cyclic behavior is exactly what we need for waves that cycle periodically through their states.

If the wave amplitude is multiplied by i repeatedly, then the wave amplitude will cycle through these values 1, i, -1, -i and 1. After four multiplications by i, the amplitude returns to its original amplitude. Here is an amplitude, cycling through the space of complex numbers under these repeated multiplications.




**4- <u>A wave of fixed wavelength</u>**

The amplitude of a wave is a measure of the displacement of the wave from its rest position. The amplitude is shown on the graph below.




Amplitude is generally calculated by looking on a graph of a wave and measuring the height of the wave from the resting position. The amplitude is a measure of the strength or intensity of the wave. For example, when looking at a sound wave, the amplitude will measure the loudness of the sound. The energy of the wave also varies in direct proportion to the amplitude of the wave.

We form a wave by distributing these wave amplitudes through space. In distributing the amplitudes, we can adjust two properties of the amplitudes:

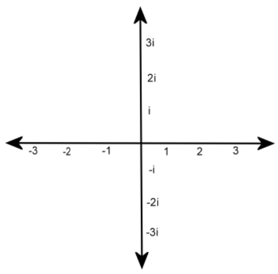
- Magnitude: this is, informally speaking, the length of the arrow in the pictures given here. It is computed formally as the "norm" of the complex number amplitude. For amplitude 1, the magnitude is one; for amplitude i, it is one; for amplitude 3i, it is 3; and so on.

The amplitude of the Geedon-photon wave as I said previously 2i or –2i. The magnitude of the wave I derived from the verse then must be 2 or –2.

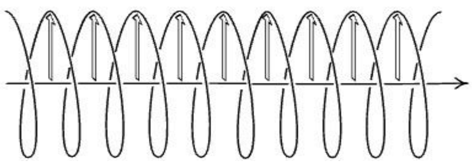
• Phase: this is, informally speaking, the direction in complex number space of the amplitude. Differences of phase produce interference phenomena. If a wave of amplitude i meets another of i, they interfere constructively to produce an increased amplitude of 2i: i + i = 2i. If, however, the second wave is of amplitude -i, then they interfere destructively and produce a zero amplitude: i - i = 0.

In the snake example the Geedon-photon wave phase is 2i which is 2 waves of amplitude "i" (Geedon wave amplitude i + photon wave amplitude i) constructively interfered to form a third wave with an increased amplitude of 2i: i + i = 2i. This wave is moving up of amplitude 2i and moving down of amplitude –2i.

Now consider a wave of everywhere constant wavelength that, in quantum theory, represents a particle of definite momentum. We consider just one dimension of space in the figure below: left to right represents the spatial extension of the wave. We use the remaining dimensions for the representation of the complex amplitudes. Up-down represents the imaginary +i and -i directions. Out-in represents the real +1 and -1 directions. In my snake example the Out-in is represented by the real +2 and –2 directions in the complex plane shown below.



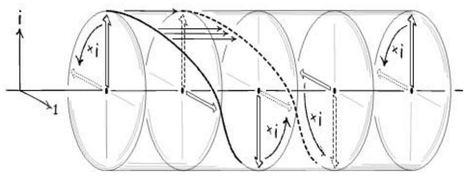

For this special case, the magnitude is constant. In the figure this is represented by the constant length of the amplitude arrow. The phase, however, advances uniformly with distance. That is, as we advance along the wave, the amplitude cycles through the values 1, i, -1, -i, 1 and, of course, all the infinitely many values in between. What results is a wave that is represented by the helical ("corkscrew") shape shown. This is the same shape and movement of the snake of the prophet Jesus which means it was not a real animal snake but I suggest from the previous analysis that it was an electromagnetic wave of the corkscrew shape.



**5- <u>Evolution in time of a wave of constant wavelength.</u>**

Recall that the attraction of a complex number amplitude was that it might enable a very simple multiplication rule for the time evolution of the wave. We can now see how that simple rule will evolve the wave in time. Multiplying the whole curve by i repeatedly will relocate the amplitudes in a way that gives us propagation of the wave. This is the basic rule of time evolution of quantum theory.

How this multiplication results in a wave propagation is shown in the figure below, for a small section of the wave. At each point along the wave, the amplitude is multiplied by i. The effect is to rotate each amplitude by one quarter turn around the space of values employed. Even though each multiplication affects only the amplitude at one point, the combination of these effects results in the wave advancing as shown. For example, if the wave had amplitude i at some position in space, that amplitude i will be relocated to a new position that turns out to be displaced by one quarter of the wavelength of the wave in the direction of its propagation.




Since multiplying by i takes the amplitude just one quarter the way through its space of values, four multiplications by i takes it through one full period. That is, we multiply by i × i × i × i = i4 = 1. So the rule in its simplest form is just

"multiply by i for each quarter period"

Multiplication by different numbers advances the wave through a time that is any desired fraction of its full period. We just need to scale the factor by that fraction.

The scaling is a little complicated, however, since the factor must have unit magnitude, so that the magnitude of the wave amplitude is unchanged. Multiplying by i advances the wave by a quarter period. Multiplying by 1 leaves the wave unchanged. So, following the scaling rule above, to advance it by $1/8^{th}$ period, we expect to use a complex number that is midway between 1 and i. You might expect this number just to be their average: [(1+i)÷2]. It is close, but not quite the right one, since this number does not have unit magnitude. Instead we need to use [(1+i)÷sqrt(2)], where "sqrt(2)" is the square root of two.

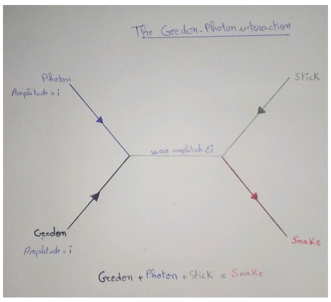
The factor by which we multiply affects only the phase of the wave amplitudes. Hence it is known as a "phase factor." We can now state the simple multiplication rule for time evolution of a wave of constant wavelength. This is what results when Schroedinger's wave equation is applied to the wave and it yields the rule of Schroedinger evolution for a wave of constant wavelength:

Later wave state = phase factor (scaled to i for each quarter wave period) × Initial wave state.

A distinctive characteristic of waves is that we can take two waves, the Geedon wave of amplitude i and the photon wave of amplitude i and add them up to form a new wave of amplitude 2i. That adding of waves is the essence of the phenomenon of the interference of waves. The theory of matter waves tells us that particles like electrons are also waves. So we should be able to add several of them together, just as we could add several light waves together.

The snake was vibrating but it was a mechanical wave as the water wave. That type of oscillation has of course an amplitude but if we have like in my equation a complex amplitude wave, we have to think straight forward of a quantum wave. The quantum wave is about particles. The particles involved in the verse 10 surah An-Naml are the photon particle (angel created from light) and the Geedon human soul particle that I deducted from the Quran in my first book « Mathematical interpretation of the holy Quran_Volyme 1».

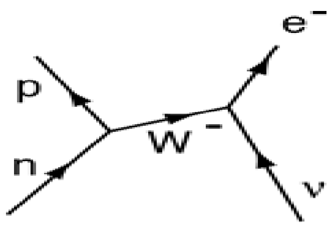
I would think that the snake of prophet moses was vibrating as a mechanical wave that is not my point of focus. The amplitude 2i that we deducted from the verse 10 surah An-Naml is the fundamental Geedon soul particle of prophet Moses that was vibrating with the angel photon particle with amplitude 2i. It could be the angel photon wave amplitude i interfered with the prophet soul particle Geedon amplitude i to form a new wave of amplitude 2i. This third wave Geedon-photon could have transferred energy to the stick and changed its particle identity to a new particle of a snake.



This is known as weak interactions that manifest themselves as reactions, or decays, in which some particles may disappear, while others appear. There is no structure that is bound together by a 'weak force', but weak interactions are vital for understanding the world around us.

Weak interactions were involved in most of the reactions in the very early Universe by which particles changed from one sort to another. They are therefore largely responsible for the overall mixture of particles from which the current Universe is made.

Example of the weak interaction when a neutrino interacts with a neutron, a $W^-$ can be exchanged, transforming the neutron into a proton and producing an electron.




Neutrino interacts with neutron

$n + \nu \rightarrow p + e^-$

# Part III:
# «Ṭā -Sīn -Mīm» (طسم)

## I- The equation

The letters combination «Ṭā Sīn Mīm» can be transformed to numbers combination (16,12,24). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination «Ṭā Sīn Mīm» :

1. Ṭā = Ordinal number 16 in arabic alphabets;
2. Sīn = Ordinal number 12 in arabic alphabets;
3. Mīm = Ordinal number 24 in arabic alphabets.

First we calculate the operation that was done to move from the first number (16) of the combination to the second number (12).

16 – 4 = 12.

Second we calculate the operation that was done to move from the second number (12) of the combination to the third number (24).

12 + 12 = 24

The arithmetic operation is: 16 – 4 + 12 = 24.

The combination «Ṭā Sīn Mīm» is the opening of the surah Ash-shu'ara that precedes the surah An-Naml of «Ṭā Sīn» related to the snake wave.

The surah Ash-shu'ara begins :
1-"Ṭā Sīn Mīm"
2-"These are the verses of the clear Book."

طسم (1) تِلْكَ آيَاتُ الْكِتَابِ الْمُبِينِ (2)

And bizarrely this surah talks again about the contest between the prophet moses and the sorcerers of the pharaoh.

In verse 32-33 and 44-45 of surah Ash-shu'ara state:

32-"So [Moses] threw his staff, and suddenly it was a serpent manifest."
33-"And he drew out his hand; thereupon it was white for the observers."
44-"So they threw their ropes and their staffs and said, "By the might of Pharaoh, indeed it is we who are predominant."
45-"Then Moses threw his staff, and at once it devoured what they falsified."
فَأَلْقَىٰ عَصَاهُ فَإِذَا هِيَ ثُعْبَانٌ مُّبِينٌ (32) وَنَزَعَ يَدَهُ فَإِذَا هِيَ بَيْضَاءُ لِلنَّاظِرِينَ (33)...فَأَلْقَوْا حِبَالَهُمْ وَعِصِيَّهُمْ وَقَالُوا بِعِزَّةِ فِرْعَوْنَ إِنَّا لَنَحْنُ الْغَالِبُونَ (44)فَأَلْقَىٰ مُوسَىٰ عَصَاهُ فَإِذَا هِيَ تَلْقَفُ مَا يَأْفِكُونَ (45)

Here it states clearly that his stick turned into a snake waving but in this episode the verses are adding another element in the contest which is the prophet moses's hand that was shining white which is more likely to be the Geedon-photon interaction. But how can we link this to the previous 2i wave amplitude ?

We already said that the prophet soul particle Geedon interacted with the photon angel particle wave creating a third wave with amplitude 2i in the snake event. The interference of 2 waves of amplitude "i" each, one of the Geedon amplitude i and one of the angel photon amplitude i. Notice now in this case of Part III of the chapter about the verse 33 surah Ash-shu'ara that the prophet's hand was "white" or may be shining white as the light photon which reinforce my idea of Geedon-photon interaction.

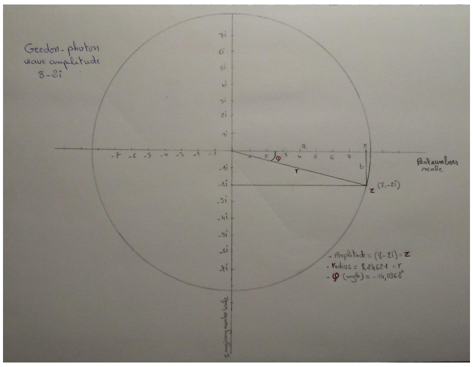
Again I think that the first wave of amplitude "i" was a photon wave coming from the angel and the second wave was coming from the Geedon soul particle of the prophet moses's. The interference constructed a third wave of amplitude 2i. Then the third wave amplitude was squared to give $-4$ when it interacted with the stick atoms.

Let's rewrite the equation: The $x^2 = -4$ means $x = 2i$ or $-2i$.

And then now we have another new number added $+12$. The equation becomes $-4 + 12 = 8$ or $(\pm 2i)^2 + 12 = 8$.

This equation $(\pm 2i)^2 + 12 = 8$ can be converted to have the same result 8. It can be written using only 2i and not $(\pm 2i)^2$: The operation will be $2i + z = 8$. This $2i + z = 8$ can also be written as $8 - 2i = z$.

Surprisingly $8 - 2i = z$ is a complex number $8+(-2i) = z$ that has a position in the complex plane in this figure:




Complex number z with real part a and imaginary part b. Shown is the length z and the angle φ between z and the "real number scale," too.

Now we have some more data about our wave:

- Amplitude : 8 – 2i
- Radius : 8.24621
- Angle φ : – 14.0362°

A complex number is defined as z = a + bi [z = 8 +(–2i). Here a and b are real numbers, where a is the real part and b the imaginary part of z and "i" being the imaginary unit.

It follows from standard trigonometry that : 8 = r cos φ and 2i = r sin φ hence z = (r cos φ) + (i r sin φ).

Complex numbers are often used to represent wavefunctions. All such representations depend ultimately on a fundamental mathematical identity, known as Euler's theorem , that takes the form:

$$e^{i\phi} \equiv \cos\phi + i\,\sin\phi,$$

It follows from Euler's theorem that any complex number, z,can be written:

$$z = r\,e^{i\theta}$$

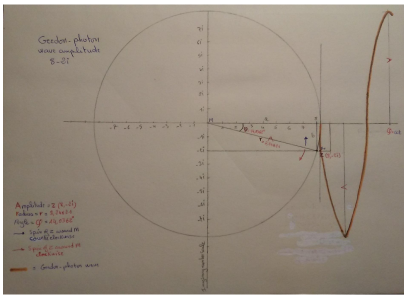
## II- <u>The moses sea splitting</u>

The verse 63 of surah Ash-shu'ara states that the same stick was used again to split the sea water.

63-"Then We inspired Moses, "Strike with your staff the sea," and it parted, and each portion was like a great towering mountain."

فَأَوْحَيْنَا إِلَىٰ مُوسَىٰ أَنِ اضْرِب بِّعَصَاكَ الْبَحْرَ ۖ فَانفَلَقَ فَكَانَ كُلُّ فِرْقٍ كَالطَّوْدِ الْعَظِيمِ (63)

Here we can notice that the same stick in the hand of the prophet moses is used. The Geedon-photon wave of amplitude of 2i in the snake event is having now a different amplitude of a complex number 8 +(–2i).



Representation of an oscillation φ = ωt.

A wave is a periodic function in time and space. The time dependence is discussed, first. If in the above figure the point z spins clockwise round the center of the circle M with a constant velocity, then the projection of point z, $z_0$ describes a harmonic oscillation as shown.

This oscillation is given by : y = A · sin φ [ y = (8-2i) × sin(– 14.0362°)], where A is the amplitude and φ is the angle of rotation. φ can be expressed as a function of time t and the angular frequency of the rotation ω. It is φ = ω·t, with ω = 2·π·f and f = 1/T; f is the frequency and T is the time for one rotation. The frequency ν is defined as ν =1/T.

and the angular frequency as ω = 2π · ν. It is y = A · sin (ωt) .

My oscillation y = -1.94027911223577 + 0.485069778058941 i.

As I mentioned above, a wave is also a function of space coordinates. Here one space coordinate, x, is considered, only. For t = const. The periodicity of the function is determined by λ, the wavelength. λ is the distance between two maxima or minima of the given wave y. It follows

$$y = A \cdot \sin\left(2\pi \frac{x}{\lambda}\right)$$

λ being the wavelength. With the abbreviation

$$k = \frac{2\pi}{\lambda}$$

This equation $y = A \cdot \sin\left(2\pi \frac{x}{\lambda}\right)$ with my data becomes -1.94027911223577 + 0.485069778058941 i. = (8-2i) . sin $\frac{(2pi\times8)}{\lambda}$

$\sin \left(\frac{2\pi\times 8}{\lambda}\right) =$

-1.94027911223577 + 0.485069778058894 i

÷ ( 8 – 2i)

$\sin \left(\frac{50.2654824574}{\lambda}\right) =$

–0.24253488902947– 2.94117647058824×10$^{-16i}$

The Geedon-photon wavelength λ =

Input interpretation:

$$\sin\left(\frac{2\pi\times 8}{\lambda}\right) = -0.24253488902947 - 2.94117647058824\times 10^{-16 i}$$

Result:

$$\sin\left(\frac{16\pi}{\lambda}\right) = -2.16647810187411 - 2.22462615845695\, i$$

Alternate forms:

$$2.81474976710656\times 10^{14} \sin\left(\frac{16\pi}{\lambda}\right) + 0.\times 10^{-1}\, i \cos\left(\frac{16\pi}{\lambda}\right) = -6.0980937326916\times 10^{14} - 6.2617659614159\times 10^{14}\, i$$

$$\frac{1}{2} i e^{-(16 i \pi)/\lambda} - \frac{1}{2} i e^{(16 i \pi)/\lambda} = -2.16647810187411 - 2.22462615845695\, i$$

$$128 \sin\left(\frac{\pi}{4} - \frac{4\pi}{\lambda}\right) \sin\left(\frac{\pi}{4} - \frac{2\pi}{\lambda}\right) \sin\left(\frac{\pi}{4} - \frac{\pi}{\lambda}\right) \sin\left(\frac{\pi}{\lambda} + \frac{\pi}{4}\right) \sin\left(\frac{2\pi}{\lambda} + \frac{\pi}{4}\right) \sin\left(\frac{4\pi}{\lambda} + \frac{\pi}{4}\right) \sin\left(\frac{\pi}{\lambda}\right) \cos\left(\frac{\pi}{\lambda}\right) = -2.16647810187411 - 2.22462615845695\, i$$

Solutions:

$$\lambda \approx \frac{50.26548245743669}{6.283185307179586\, n - (0.7463497251017476 + 1.8279269220008166\, i)}, \quad n \in \mathbb{Z}$$

$$\lambda \approx \frac{50.26548245743669}{6.283185307179586\, n + (3.887942378691541 + 1.8279269220008166\, i)}, \quad n \in \mathbb{Z}$$

With this very complex wavelength it is going to be impossible for me to graph this wave with my mathematical modest tools.

# Chapter VII
# Yā Sīn (يس)

## I- The equations

The letters combination «Yā Sīn» can be transformed to numbers combination (28,12). Each letter corresponds to its ordinal number in the arabic alphabets.

The combination «Yā Sīn» :
1. Yā = Ordinal number 28 in arabic alphabets;
2. Sīn = Ordinal number 12 in arabic alphabets.

Then we calculate the operation that was done to move from the first number (28) of the combination to the second number (12).

The arithmetic operation will be :

$28 - 16 = 12$

The combination letters «Yā Sīn» is the opening of the surah named also «Yā Sīn» :

يس (1) وَالْقُرْآنِ الْحَكِيمِ (2) إِنَّكَ لَمِنَ الْمُرْسَلِينَ (3) عَلَى صِرَاطٍ مُسْتَقِيمٍ (4)

1-"Yâ-Sĩn.
2- By the wise1 Qur'ān,
3-Indeed you, [O Muḥammad], are from among the messengers,
4-On a straight path."

Actually the ways to write the number –16 are multiple. But let's just link it to the result we got from the previous chapter about the –4.

Let's rewrite the equation. The $x^2 = -4$ means $x = 2i$ or $-2i$.

We know that we can obtain the number –16 by squaring 2i to get the –4 then multiplying by 4. The number –4 is $x^2$ (with $x = 2i$ or $-2i$).

So we have $-16 = (x^2) \times 4$ with $x = 2i$ or $-2i$.

The final equation becomes like this :

$-16 = (\pm 2i)^2 \times 4$ or we can also write simply

$-16 = (\pm 2i)^2 \times 4$ It means $(\pm 2i)^2 + (\pm 2i)^2 + (\pm 2i)^2 + (\pm 2i)^2$

$(-4) + (-4) + (-4) + (-4) = -16$

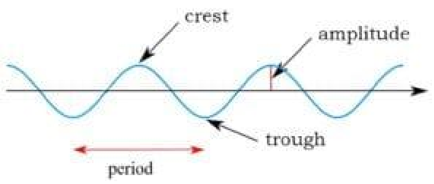
Again this equation is about quantum waves. Remember when we said previously that the amplitude of the Geedon-photon wave is 2i or –2i and the magnitude of the wave I derived from the verse was 2 or –2.

Also In the snake example the wave phase can be 2i which is 2 waves of amplitude "i" constructively interfered to form an increased amplitude of 2i: photon wave of amplitude i + Geedon wave of amplitude i = 2i.

So we still have in the present chapter two waves interfered. The new formed wave is of amplitude (±2i) of Geedon-photon. When we squared it $(\pm 2i)^2$ we obtained –4 in the snake case. The squaring of an amplitude gives the probability of locating the Geedon-photon particles in a definite spacetime (x,t). Then when we multiply it 4 times it again $(\pm 2i)^2 \times 4$ we obtain –16. Actually the number – 16 has a possible explanation that I will address later.

To square the amplitude of a quantum wave has a meaning. Let's explain it.

The amplitude of a wave is its height, that is, half the distance from trough to crest. Amplitude can be measured for water waves, sound waves traveling through air, or for any other type of wave traveling through a gas or liquid. Even waves traveling through a solid have an amplitude, as in waves shaking the Earth due to an earthquake.




Wave properties. The power of a water wave depends on its height (amplitude).The horizontal axis is time.

For waves that require a material medium, like water waves or sound waves, the amplitude determines the amount of energy of the wave. More precisely, the energy with which a wave hits is equal to the amplitude squared. So, if you were standing on the beach and were hit by a water wave one foot tall, little would happen. But if it were two feet tall, the wave would have four times the impact (2 squared = 4). If it were four feet tall, it would have 16 times the impact (4 squared = 16). If the wave were as tall as a tsunami…well, you know what would happen then.

This relationship between amplitude and energy holds true for any wave that requires a material medium. These are classical waves; they can be described by Newton's Laws of Motion. However, the relationship between amplitude and energy does not hold true for quantum waves. Quantum waves do not require a material medium and do not follow Newton's Laws of Motion. Rather, they follow the laws of the quantum world like our snake wave.

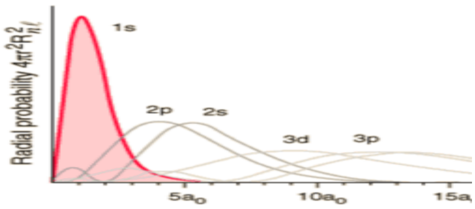
Quantum particles including Geedon and photon have properties of both waves and particles. When considered as waves, they have amplitude. However, the amplitude of a quantum wave does not determine the wave's energy. The energy of a quantum wave is proportional to its frequency rather than to its amplitude.

The properties of quantum entities are less straightforward than the properties of everyday objects like tables and chairs. Quantum waves have amplitude in the sense that their amplitude can be calculated. No one has ever seen a quantum wave, nor has seen if they actually have height. According to the original interpretation, that is, the Copenhagen Interpretation of quantum physics, it makes no sense to even try to visualize the height of a quantum wave. While the amplitude of a quantum wave can be calculated, it is granted no physical reality.

Instead of determining energy level, the amplitude of a quantum wave determines probabilities. For example, where wave amplitudes are calculated as higher, the associated particle is more likely to be detected. Specifically, the likelihood of detecting the particle in a particular position is equal to the square of the amplitude in that location.

The amplitude of a quantum wave is also called the "probability amplitude." When the probability amplitude is squared in order to calculate actual probabilities, it is called the "probability density." A probability density is different from a probability distribution. Probability densities are calculated using calculus. Probability distributions are analogous in concept but can be calculated using algebra.

A key feature of the quantum world is that the behavior of quantum particles is not deterministic as in the everyday world of tables and chairs. The behavior of quantum particles is, instead, probabilistic.




Probability density of the distance of the electron from the nucleus of a hydrogen atom. Vertical axis is probability; horizontal axis is distance from the nucleus.

The output of the key equation of quantum mechanics, the Schrodinger Equation, is probability densities. The equation can be used to calculate the probabilities associated not only with the position of a particle, but also with other properties like particle momentum, energy, and spin.

It may seem surprising that the amplitude of quantum waves has a different physical implication than the amplitude of classical waves that create ripples in matter. However, the term “wave” is used in quantum physics only in analogy with the classical waves that we see in everyday life; quantum waves are not at all the same beast as everyday waves.

Often quantum waves have amplitudes that must be expressed with imaginary numbers. As our Geedon-photon wave amplitude was (±2i) and when we square it $[(\pm 2i)]^2$ we obtain the 2 particles probability to be located in any spacetime (x, t).

Again multiplying the amplitude 4 times may give any information about the meaning of surah «Yā Sīn».

When the amplitude is used to calculate the probability of detecting an electron or other particle in a particular position, the amplitude is squared.

Most interpretations of quantum mechanics do not give physical meaning to the imaginary numbers that characterize quantum wave amplitudes. The appearance of imaginary numbers arising from the Schrodinger Equation is considered just one more unaccountably odd aspect of quantum mechanics. However, the Transactional Interpretation assigns special physical meaning to the imaginary numbers in quantum wave amplitudes. Quantum wave amplitudes are considered to exist in a physical reality outside of spacetime but which determines behavior of particles in spacetime.

## II- From electromagnetic to sound wave

The only verses that mention the wave in surah «Yā Sīn» are the following verses:

إِنْ كَانَتْ إِلَّا صَيْحَةً وَاحِدَةً فَإِذَا هُمْ خَامِدُونَ (29)...

29-"It was not but one shout, and immediately they were extinguished."

وَيَقُولُونَ مَتى هذَا الْوَعْدُ إِنْ كُنْتُمْ صادِقِينَ (48) مَا يَنْظُرُونَ إِلَّا صَيْحَةً وَاحِدَةً تَأْخُذُهُمْ وَهُمْ يَخِصِّمُونَ (49) فَلَا يَسْتَطِيعُونَ
تَوْصِيَةً وَلَا إِلَى أَهْلِهِمْ يَرْجِعُونَ (50) وَنُفِخَ فِي الصُّورِ فَإِذَا هُمْ مِنَ الْأَجْدَاثِ إِلَى رَبِّهِمْ يَنْسِلُونَ (51) قَالُوا يَا وَيْلَنَا مَنْ بَعَثَنَا مِنْ
مَرْقَدِنَا هَذَا مَا وَعَدَ الرَّحْمَنُ وَصَدَقَ الْمُرْسَلُونَ (52) إِنْ كَانَتْ إِلَّا صَيْحَةً وَاحِدَةً فَإِذَا هُمْ جَمِيعٌ لَدَيْنَا مُحْضَرُونَ (53) فَالْيَوْمَ لَا
تُظْلَمُ نَفْسٌ شَيْئًا وَلَا تُجْزَوْنَ إِلَّا مَا كُنْتُمْ تَعْمَلُونَ (54)

48-"And they say, "When is this promise, if you should be truthful?
49-They do not await except one blast which will seize them while they are disputing.
50-And they will not be able [to give] any instruction, nor to their people can they return.
51-And the Horn will be blown; and at once from the graves to their Lord they will hasten.
52-They will say, "O woe to us! Who has raised us up from our sleeping place?" [The reply will be], "This is what the Most Merciful had promised, and the messengers told the truth."
53-It will not be but one blast, and at once they are all brought present before Us.
54-So today [i.e., the Day of Judgement] no soul will be wronged at all, and you will not be recompensed except for what you used to do."

All these verses are talking about the angel shout which is in physics the sound wave. Sound waves are longitudinal waves that travel through a medium like air or water.

When we think about sound, we often think about how loud it is (amplitude, or intensity) and its pitch (frequency). Sound is produced when an object vibrates, creating a pressure wave. This pressure wave causes particles in the surrounding medium (air, water, or solid) to have vibrational motion. As the particles vibrate, they move nearby particles, transmitting the sound further through the medium. The human ear detects sound waves when vibrating air particles vibrate small parts within the ear.

In many ways, sound waves are similar to light waves. They both originate from a definite source and can be distributed or scattered using various means. Unlike light, sound waves can only travel through a medium, such as air, glass, or metal. This means there’s no sound in space!

Before we discuss how sound travels, it’s important to understand what a medium is and how it affects sound. We know that sound can travel through gases, liquids, and solids. But how do these affect its movement? Sound moves most quickly through solids, because its molecules are densely packed together. This enables sound waves to rapidly transfer vibrations from one molecule to another. Sound moves similarly through water, but its velocity is over four times faster than it is in air. The velocity of sound waves moving through air can be further reduced by high wind speeds that dissipate the sound wave’s energy.

The speed of sound is dependent on the type of medium the sound waves travel through. In dry air at 20°C, the speed of sound is 343 m/s! In room temperature seawater, sound waves travel at about 1531 m/s! When physicists observe a disturbance that expands faster than the local speed of sound, it's called a shockwave. When supersonic aircraft fly overhead, a local shockwave can be observed! Generally, sound waves travel faster in warmer conditions. As the ocean warms from global climate, how do you think this will affect the speed of sound waves in the ocean?

When an object vibrates, it creates kinetic energy that is transmitted by molecules in the medium. As the vibrating sound wave comes in contact with air particles passes its kinetic energy to nearby molecules. As these energized molecules begin to move, they energize other molecules that repeat the process. Imagine a slinky moving down a staircase. When falling down a stair, the slinky's motion begins by expanding. As the first ring expands forward, it pulls the rings behind it forward, causing a compression wave. This push and pull chain reaction causes each ring of the slinky's coil to be displaced from its original position, gradually transporting the original energy from the first coil to the last. The compressions and rarefactions of sound waves are similar to the slinky's pushing and pulling of its coils.

A longitudinal wave is a wave in which the motion of the medium's particles is parallel to the direction of the energy transport. Sound waves in air and fluids are longitudinal waves, because the particles that transport the sound vibrate parallel to the direction of the sound wave's travel. If you push a slinky back and forth, the coils move in a parallel fashion (back and forth). Similarly, when a tuning fork is struck, the direction of the sound wave is parallel to the motion of the air particles.

Most remote controls, especially ones for household electronics, use infrared light to communicate with the devices that they control (a few types of remotes use radio frequencies, like garage door openers). Though our eyes can't pick anything up, that little LED at the end of the remote is sending a signal to the device, telling it to do something! Some remotes have a visible light that blinks when you use it – this is just acknowledging that you pressed a button. The real communication happens in the infrared.

Want to pick up that infrared signal, and find out what sort of patterns are being sent? There's a very simple circuit you can build to do that! There are two major components – a solar cell that detects light and turns it into electrical impulses, and an amplifier/speaker that turns those impulses into sound – plus some cables to connect them.

Here are the specifics of the materials that you'll need:
– A solar cell with two wire leads, around 0.5V and 300-400mA
– An audio cable with a 1/8″ jack on one end and wire leads on the other

– Two test leads with jumper clips on each end

It’s very straightforward to assemble these pieces into a circuit! So, what can you do with it when you’ve built it? A bunch of different things, actually, but start with checking out what your remote control is sending via infrared light. You’ll want to turn on the amplifier/speaker and point the remote control at the solar cell. What happens?

You should hear a pattern of sounds when you push a button on the remote! Try different buttons and see what you hear. Grab some other remotes and see how their patterns differ! If you’ve got a multi-function remote control that works with a variety of devices, see how many different sounds you can make with one remote. This gives you a peek at why your television remote doesn’t automatically control your car stereo – they each send different patterns of infrared light!

There’s an even quicker way to see the signal from a remote control, using a digital camera (or cellphone camera). Most older or lower-end digital cameras will pick up a bit of infrared light along with the visible light you’re trying to capture, so you’ll see the remote’s LED glow when you push buttons, point it at the camera, and watch what happens on the camera’s LCD screen. But while this technique will tell you that the remote is working, it won’t reveal the remote’s unique pattern of light!

Since there exist many new researches converting the photon to electricity or sound waves of phonons like the Light Theremin device, I would think that it may have been the angel photon particle of amplitude i interfered with the Geedon particle with amplitude i and the interaction caused a strong sound wave. That could have caused humans death in verse 29 surah «Yā Sīn».

And then it may have been that another interaction of the same wave amplitude 2i that revived them in verse 53. The photon-Geedon wave can make a sound wave as theorists and experiments have shown and the strong sound could be interpreted as the blast expressed (صَيْحَةً) and this Geedon-photon wave has an amplitude of 2i but when squared $(\pm 2i)^2$ we obtained –4 which is the snake case then in the case of sea splitting the amplitude becomes 8–2i. But the reason why $(\pm 2i)^2$ was multiplied by 4 times in surah «Yā Sīn» that's what I am going to explain in the next chapter.

# Chapter VII
# Sód ص
# Qāf ق
# Nūn ن

## Part I
## Sód ص/Qāf ق

### I- The equations

The letter «Sód» is not combined with any other letter, it is just mentioned as a single letter. This letter can be transformed to a number corresponding to its ordinal number in the arabic alphabets. This letter is largely linked to the letter «Qāf» as we will see in the next analysis but each one of them is mentioned in a different surah and they don't form a combination.

1. Sód= Ordinal number 14 in arabic alphabets;
2. «Qāf»= Ordinal number 21 in arabic alphabets;

So what can these two numbers represent in the mathematical language +14 and +21 ?

The letter «Sód» is the opening of the surah also named «Sód».

ص وَالْقُرْآنِ ذِي الذِّكْرِ(1)

1-"Sód.By the Qur'ān containing reminder"

When you read the whole surah you notice that there a mention of the blast (صَيْحَةً) again in verse 15:

12-"The people of Noah denied before them, and [the tribe of] ʿAad and Pharaoh, the owner of stakes,"
13-"And [the tribe of] Thamūd and the people of Lot and the companions of the thicket [i.e., people of Madyan]. Those are the companies."
14-"Each of them denied the messengers, so My penalty was justified."
15-"And these [disbelievers] await not but one blast [of the Horn]; for it there will be no delay."

وَمَا يَنظُرُ هَٰؤُلَاءِ إِلَّا صَيْحَةً وَاحِدَةً مَّا لَهَا مِن فَوَاقٍ (15)

Then the blast will be mentioned again in surah «Qāf» in verse 20:

20-"And the Horn will be blown. That is the Day of [carrying out] the threat."
21-"And every soul will come, with it a driver and a witness."

وَنُفِخَ فِي الصُّورِ ۚ ذَٰلِكَ يَوْمُ الْوَعِيدِ (20)

The difference is that the blast expressed (صَيْحَةً) in surah «Sód» +14 is about the wave that stroke these disobedient populations and caused their death — The death in my book volume 1 is defined as " the soul particle Geedon tunnels the body barrier and gets out of the body space"— The blast in surah «Qāf» +21 was a wave to make the soul particle move back into the body space and revive them again after death.

These two types of waves are actually not the only one. A deeper look on the Quran will show you that from all these verses we learn that there are four (4) types of blast:

1. The horn will be blown: The first of the blows announces the beginning of the end of the universe;

The verse 49 surah «Yā Sīn»:

48-"And they say, "When is this promise, if you should be truthful?
49-They do not await except one blast which will seize them while they are disputing.

This type of blast is mentioned also in surah An-Naml verse 87:

وَيَوْمَ يُنفَخُ فِي الصُّورِ فَفَزِعَ مَن فِي السَّمَاوَاتِ وَمَن فِي الْأَرْضِ إِلَّا مَن شَاءَ اللَّهُ ۚ وَكُلٌّ أَتَوْهُ دَاخِرِينَ (87)

87-"And [warn of] the Day the Horn will be blown, and whoever is in the heavens and whoever is on the earth will be terrified except whom Allah wills. And all will come to Him humbled."

Let's recall the equation. The $x^2 = -4$ means $x = 2i$ or $-2i$.

We know that we can obtain the number $-16$ by multiplying the $-4$ by 4. The number $-4$ is $x^2$ (with $x = 2i$ or $-2i$).

So we have $-16 = (x^2) \times 4$ with $x = 2i$ or $-2i$.

The final equation becomes like this :
$-16 = (\pm 2i)^2 \times 4$ or we can also write simply
$-16 = (\pm 2i)^2 \times 4$ It means $(\pm 2i)^2 + (\pm 2i)^2 + (\pm 2i)^2 + (\pm 2i)^2$.

This equation is about quantum waves. Remember when we said previously that the amplitude of the Geedon-photon wave in the snake event is 2i or –2i and the magnitude of the wave I derived from the verse was 2 or –2.

Also In the snake example the wave phase can be 2i which is 2 waves of amplitude "i" constructively interfered to form an increased amplitude of 2i: $i + i = 2i$ (Geedon wave and photon wave).

So in the case of surah «Yā Sīn» two waves interfered. So the new formed wave is of amplitude ($\pm 2i$). When we squared it $(\pm 2i)^2$ we obtained –4 in the snake case. Then when we multiplied by 4 : $(\pm 2i)^2 \times 4$ we obtained –16. Here we understand that the repetition of the $(\pm 2i)^2$ four times has a meaning that there may be 4 types of blasts and waves.

2. The second blast is about the death of all humans on earth

Surah Az-Zumar verse 68 states

68-"The Trumpet will be blown and all those in the heavens and all those on the earth will fall dead, except those Allah wills ˹to spare˺. Then it will be blown again and they will rise up at once, looking on ˹in anticipation˺."
وَنُفِخَ فِي الصُّورِ فَصَعِقَ مَن فِي السَّمَاوَاتِ وَمَن فِي الْأَرْضِ إِلَّا مَن شَاءَ اللَّهُ ۖ ثُمَّ نُفِخَ فِيهِ أُخْرَىٰ فَإِذَا هُمْ قِيَامٌ يَنظُرُونَ (68)

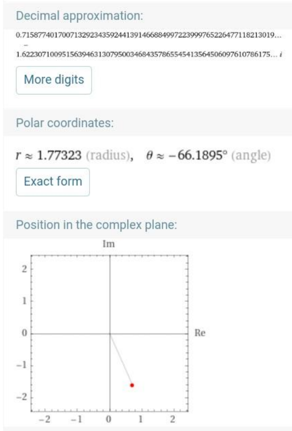
3. The third blow announces the beginning of the resurrection of the people;

Surah «Qāf» verse 20-"And the Horn will be blown. That is the Day of [carrying out] the threat."

This resurrection was mentioned also right after the wave of destruction of verse 49 in surah «Yā Sīn» in verse 53:

53-It will not be but one blast, and at once they are all brought present before Us.

The equation is $(2i)^? = 21$
$\text{Log}_{2i}(21) = ?$



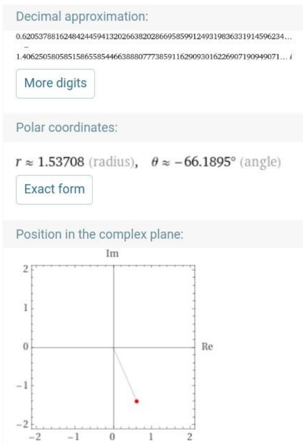

4. The fourth blow is when God wanted to finish a complete designated population that denied the messengers.

Surah «Sód» verse 15-"And these [disbelievers] await not but one blast [of the Horn]; for it there will be no delay."

This type also was mentioned in surah «Yā Sīn» in verse 29-"It was not but one shout, and immediately they were extinguished."

The equation is $(2i)^{?} = 14$

$\mathrm{Log}_{2i}(14) = ?$



## II- The electromagnetic energy

Then we can say:

1- Wave announcing the end of human life on earth: amplitude –4;
2- Wave causing all humans destruction: amplitude –16;
3- Wave causing a precise population destruction: amplitude 14;
4- Wave causing resurrection: amplitude 21.

These four types of waves' amplitudes are generated by the Geedon-photon wave of amplitude 2i.

We know that the light/angel (photon particle) is an electromagnetic wave but we know nothing about the Geedon particle (human soul) and we know nothing about the fields and energy generated by their interaction Geedon-photon. But here is a brief explanation of how light energy as an electromagnetic wave behaves.

Anyone who has used a microwave oven knows there is energy in electromagnetic waves. Sometimes this energy is obvious, such as in the warmth of the summer Sun. Other times, it is subtle, such as the unfelt energy of gamma rays, which can destroy living cells.

Electromagnetic waves bring energy into a system by virtue of their electric and magnetic fields. These fields can exert forces and move charges in the system and, thus, do work on them. However, there is energy in an electromagnetic wave itself, whether it is absorbed or not. Once created, the fields carry energy away from a source. If some energy is later absorbed, the field strengths are diminished and anything left travels on.

Clearly, the larger the strength of the electric and magnetic fields, the more work they can do and the greater the energy the electromagnetic wave carries. In electromagnetic waves, the amplitude is the maximum field strength of the electric and magnetic fields (Figure below). The wave energy is determined by the wave amplitude.

Energy carried by a wave depends on its amplitude. With electromagnetic waves, doubling the E fields and B fields quadruples the energy density u and the energy flux uc.

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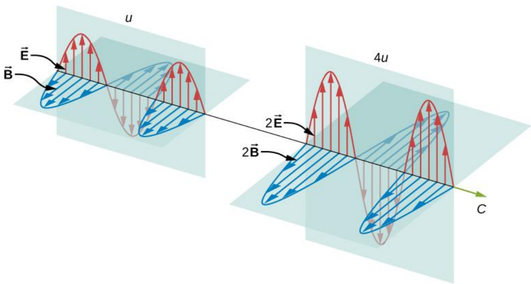



For a plane wave traveling in the direction of the positive x-axis with the phase of the wave chosen so that the wave maximum is at the origin at t=0, the electric and magnetic fields obey the equations

$$E_y(x,t) = E_0 \cos(kx - \omega t)$$
$$B_z(x,t) = B_0 \cos(kx - \omega t)$$

The energy in any part of the electromagnetic wave is the sum of the energies of the electric and magnetic fields. This energy per unit volume, or energy density u, is the sum of the energy density from the electric field and the energy density from the magnetic field. Expressions for both field energy densities ($u_E$ in Capacitance and $u_B$ in Inductance). Combining these the contributions, we obtain

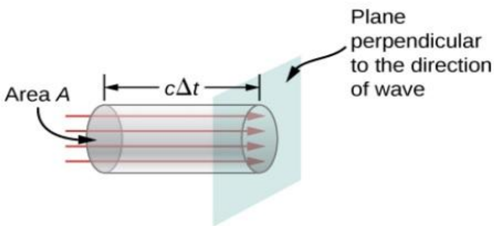
$$u(x,t) = u_E + u_B = \frac{1}{2}\epsilon_0 E^2 + \frac{1}{2\mu_0}B^2$$

The expression $E = cB = \frac{1}{\sqrt{\epsilon_0 \mu_0}}B$ then shows that the magnetic energy density $u_B$ and electric energy density $u_E$ are equal, despite the fact that changing electric fields generally produce only small magnetic fields. The equality of the electric and magnetic energy densities leads to $u(x,t) = \epsilon_0 E^2 = \frac{B^2}{\mu_0}$.

The energy density moves with the electric and magnetic fields in a similar manner to the waves themselves.

We can find the rate of transport of energy by considering a small time interval *t*. As shown in (Figure), the energy contained in a cylinder of length *ct* and cross-sectional area A passes through the cross-sectional plane in the interval *t*.

The energy *uAct* contained in the electric and magnetic fields of the electromagnetic wave in the volume *Act* passes through the area A in time *t*.




The energy passing through area A in time *t* is $u \text{ volume} = uAct.$

The energy per unit area per unit time passing through a plane perpendicular to the wave, called the energy flux and denoted by S, can be calculated by dividing the energy by the area A and the time interval *t*.

$$S = \frac{\text{Energy passing area } A \text{ in time } t}{At} = uc = \epsilon_0 c E^2 = \frac{1}{\mu_0} EB.$$

More generally, the flux of energy through any surface also depends on the orientation of the surface. To take the direction into account, we introduce a vector $\vec{S}$, called the Poynting vector, with the following definition: $\vec{S} = \frac{1}{\mu_0} \vec{E} \quad \vec{B}$

The cross-product of $\vec{E}$ and $\vec{B}$ points in the direction perpendicular to both vectors. To confirm that the direction of $\vec{S}$ is that of wave propagation, and not its negative, return to (Figure). Note that Lenz's and Faraday's laws imply that when the magnetic field shown is increasing in time, the electric field is greater at x than at $x + x$. The electric field is decreasing with increasing x at the given time and location. The proportionality between electric and magnetic fields requires the electric field to increase in time along with the magnetic field. This is possible only if the wave is propagating to the right in the diagram, in which case, the relative orientations show that $\vec{S} = \frac{1}{\mu_0} \vec{E} \quad \vec{B}$ is specifically in the direction of propagation of the electromagnetic wave.

The energy flux at any place also varies in time, as can be seen by substituting u from (Figure) into (Figure). $S(x,t) = c\epsilon_0 E_0^2 \cos^2(kx - \omega t)$

Because the frequency of visible light is very high, of the order of $10^{14}$ Hz, the energy flux for visible light through any area is an extremely rapidly varying quantity. Most measuring devices, including our eyes, detect only an average over many cycles. The time average of the energy flux is the intensity I of the electromagnetic wave and is the power per unit area. It can be expressed by averaging the cosine function in (Figure) over one complete cycle, which is the same as time-averaging over many cycles (here, T is one period):

$$I = S_{\text{avg}} = c\epsilon_0 E_0^2 \frac{1}{T}\int_0^T \cos^2\left(2\pi\frac{t}{T}\right)dt.$$

We can either evaluate the integral, or else note that because the sine and cosine differ merely in phase, the average over a complete cycle for $\cos^2(\xi)$ is the same as for $\sin^2(\xi)$,to obtain $\cos^2\xi = \frac{1}{2}\left[\cos^2\xi + \sin^2\xi\right] = \frac{1}{2}1 = \frac{1}{2}.$ where the angle brackets stand for the time-averaging operation. The intensity of light moving at speed c in vacuum is then found to be $I = S_{\text{avg}} = \frac{1}{2}c\epsilon_0 E_0^2$ in terms of the maximum electric field strength $E_0$, which is also the electric field amplitude. Algebraic manipulation produces the relationship $I = \frac{cB_0^2}{2\mu_0}$
where $B_0$ is the magnetic field amplitude, which is the same as the maximum magnetic field strength. One more expression for $I_{avg}$ in terms of both electric and magnetic field strengths is useful. Substituting the fact that $cB_0 = E_0$, the previous expression becomes $I = \frac{E_0 B_0}{2\mu_0}.$ . We can use whichever of the three preceding equations is most convenient, because the three equations are really just different versions of the same result: The energy in a wave is related to amplitude squared. Furthermore, because these equations are based on the assumption that the electromagnetic waves are sinusoidal, the peak intensity is twice the average intensity; that is, $I_0 = 2I$.

# Part II
# Nūn ن

## I- The equations

The letter «Nūn» is not combined with any other letter, it is just mentioned as a single letter. This letter can be transformed to a number corresponding to its ordinal number in the arabic alphabets.

1. Nūn= Ordinal number 25 in arabic alphabets;

So what can this number represent in the mathematical language ?

The letter «Nūn» is the opening of the surah named Al-Qalam:

ن وَالْقَلَمِ وَمَا يَسْطُرُونَ(1)

1-"Nūn. By the pen and what they inscribe,"

The verse 51 of the same surah states :

وَإِن يَكَادُ الَّذِينَ كَفَرُوا لَيُزْلِقُونَكَ بِأَبْصَارِهِمْ لَمَّا سَمِعُوا الذِّكْرَ وَيَقُولُونَ إِنَّهُ لَمَجْنُونٌ (51) وَمَا هُوَ إِلَّا ذِكْرٌ لِّلْعَالَمِينَ (52)

51-"And indeed, those who disbelieve would almost make you slip with their eyes [i.e., looks] when they hear the message, and they say, "Indeed, he is mad."

The explanation of this verse is that those who disbelieve in Allah and reject his Messengers could almost bring you to the ground with their eyes due to their extremely sharp glances towards you when they hear this Qur'ān that was revealed to you. While following their desires and turning away from the truth, they say, "Indeed, the Messenger who has brought it is a madman."

The verse was also translated to this version: "And the unbelievers who are bent on denying the truth, would all but kill you with their eyes whenever they hear this message. And they say, 'Surely, he [Mohammad] is a man possessed!'"

This meaning is about the evil eye. The term "evil eye" usually refers to harm that comes to a person because of someone else's jealousy or envy towards them. Many Muslims believe it to be real, and some incorporate specific practices in order to protect themselves or their loved ones from its effects. Others reject it as superstition or an "old wives' tale." What does Islam teach about the powers of the evil eye?

The evil eye (al-ayn in Arabic) is a term used to describe misfortune that is transmitted from one person to another out of jealousy or envy. The misfortune of the victim may manifest as sickness, loss of wealth or family, or a streak of general bad luck. The person inflicting the evil eye may do so with or without intention.

The Prophet Muhammad, peace be upon him, spoke about the reality of the evil eye, and advised his followers to recite certain verses of the Quran to protect themselves. The Prophet also rebuked followers who admired someone or something without praising Allah:

"Why would one of you kill his brother? If you see something that you like, then pray for blessing for him."

Unfortunately, some Muslims blame every little thing that goes "wrong" in their lives to the evil eye. People are accused of "giving an eye" to someone without any basis. There may even be instances when a biological cause, such as mental illness, is attributed to the evil eye and thus sound medical treatment is not pursued. One must be careful to recognize that there are biological disorders that may cause certain symptoms, and it is incumbent upon us to seek medical attention for such illnesses. We must also recognize that when things "go wrong" in our lives, we may be facing a test from Allah, and need to respond with reflection and repentance, not blame.

Whether it is the evil eye or another cause, nothing will touch our lives without the will of God behind it. We must have faith that things happen in our lives for a reason, and not become overly obsessed with the possible effects of the evil eye. Obsessing or becoming paranoid about the evil eye is itself a sickness, as it prevents us from thinking positively about Allah's plans for us. While we may take measures to help strengthen our faith and protect ourselves from this evil, we cannot allow ourselves to be taken over with the whisperings of Satan. God alone can relieve our distress, and we must seek protection only from Him.

The best protection against the evil eye is those that bring one closer to God through remembrance, prayer, and reading of the Quran. These remedies can be found in the authentic sources of Islamic law, not from rumors, hearsay, or un-Islamic traditions.

Pray for blessings on another: Muslims do often say "masha'Allah" when praising or admiring someone or something, as a reminder to themselves and others that all good things come from God. Jealousy and envy should not enter the heart of a person who believes that God-Allah has bestowed blessings on people according to His will.

Ruqyah: This refers to the use of words from the Quran which are recited as a way of curing an afflicted person. Reciting ruqyah, as advised by the Prophet Muhammad, has the effect of strengthening the faith of a believer, and reminding him or her of God's power. This strength of mind and renewed faith may help one to resist or fight against any evil or illness directed his or her way. God says in the Quran, "We send down stage by stage in the Quran, that which is a healing and a mercy to those who believe…" (verse 82 surah Al-Israa).

وَنُنَزِّلُ مِنَ الْقُرْآنِ مَا هُوَ شِفَاءٌ وَرَحْمَةٌ لِّلْمُؤْمِنِينَ ۙ وَلَا يَزِيدُ الظَّالِمِينَ إِلَّا خَسَارًا (82)

The recommended verses to read include:

- Surah Al-Fatiha ;
- The last two surahs of the Quran (Al-Falaq and An-Nas);
- The verse Al-Kursi.

Now that you understand the concept of evil eye, does that have any mathematical or physics interpretation using the number 25 ?

## II- The evil eye wave energy

I already in my first book "Mathematical interpretation of the holy Quran_volume 1" introduced and explained my idea that the human being's soul is the smallest fundamental particle with relative mass and I gave it the name Geedon. I chose this name because each letter stands for the most important characteristics of the human soul.

| | |
|---|---|
| G | is for glisten, a sparkle in your eye. |
| E | is for extraordinary, those little things you do! |
| E | is for eternal, your spirit will live. |
| D | is for dream, your beacon ahead. |
| O | is for outlook, pleasing to all. |
| N | is for nifty, how neat! |

Is the Geedon a wave, or is it a particle? This seems like a very simple question. Waves are very distinct phenomena in our universe, as are particles. And we have different sets of mathematics to describe each of them. So, if we want to go about describing the entire universe, this appears to be a very handy classification scheme — except when it isn't. And it isn't in one of the most important aspects of our universe: the subatomic world.

When it comes to things like photons and electrons, the answer to the question "Do they behave like waves or particles?" is … yes.

At first glance—and even at deeper glances—, waves and particles are very different. A particle is, as best as I can put it, a thing. It's a small, single, finite object. You can hold a particle in your hand. You can throw a particle at someone else and watch it bounce off of them. It's localized. You can point to a particle and say, "Look, the particle is right there, exactly where I'm pointing."

Particles have momentum and positions. Particles will move in straight lines until something changes their direction. Particles can bounce off of other particles, and they can change trajectories. Think of bullets or speeding cars. They're not literally small, subatomic particles, but they act like particles when they hit other things.. Many physical interactions can be described simply as particles bouncing off of one another.

On the other hand, waves are almost completely different. They're not localized. If you want to indicate where a wave is, you have to move your hands around vaguely gesturing, saying, "It's all over there." You can't hold the wave in your hand. Instead, the wave passes over, around or even through your hand.

Waves are oscillations, meaning they wiggle. They transport energy from one place to another. Waves don't really bounce off of, but instead interfere with, one another. Sometimes, when the waves come together just right, crests meet crests, and you get double waves. This is called "constructive interference." But sometimes, the waves cancel each other out, and you get nothing at all — an interaction known as "destructive interference." Waves can turn corners, and when they pass through narrow openings, they can fan out, or diffract. There are many types of waves in our universe, like ocean waves and waves on a Slinky.

Both waves and particles are described by very, very different sets of mathematical equations. So, if you want to describe something scientifically, first you have to decide if it's a wave or a particle; then you can pull out the correct mathematical tools to make predictions about how it will behave and act. And for a couple hundred years, this line of thinking was a fine approach to solving all the physics problems in the world.

The problems with this approach started with light itself. In the early 1800s, the English scientist Thomas Young played some games with light by shining some beams through two narrow openings onto a screen behind them. What he found was a classic interference pattern with stripes of varying intensity on the screen. This is exactly what water waves would do when passing through two narrow channels. Some of the light waves would add together, and some of the waves would cancel out, leaving a striped pattern on the back screen. This is pretty solid evidence that light acts like a wave, because this is exactly what waves do.

This idea was bolstered a few decades later when Scottish physicist James Clerk Maxwell figured out that electricity and magnetism were actually two sides of the same electromagnetic coin and, in the process, realized that light is waves of electricity and magnetism. That gave a conclusive picture as to what's doing the waving when it comes to light: its electricity and magnetism. Light is a wave.

Then, in the late 1800s, German theoretical physicist Max Planck threw a monkey wrench into everything when he studied blackbody radiation. To explain his observations, he proposed that light can be emitted only in discrete little chunks. A few years later, Albert Einstein threw his weight into the matter by studying the photoelectric effect, and proposed that not only is light emitted in little chunks, but light itself is made of little packets of energy called photons. In other words, light was behaving as a particle in these experiments.

So, different kinds of physics experiments were revealing different kinds of properties of light. Sometimes, light acted like a wave, and sometimes, light acted like a particle. Which was it? The answer is that it's both. And it gets even worse.

In the 1920s, a young physicist named Louis de Broglie made a radical suggestion: Since light has energy, momentum and a wavelength, and matter has energy and momentum, maybe matter has a wavelength, too. That's something that's easy to say but hard to wrap your head around. What does it mean for matter to have a wavelength? Or was de Broglie just terribly mistaken?

It turns out that de Broglie nailed it. At first blush, you may wonder how electrons could be anything but particles, because you can literally hold them in your hand, and they do a lot of bouncing. When you shoot electrons through two slits, you end up with the exact same interference pattern that you do with lights: alternating vertical stripes of more and fewer electrons.

What's going on? Electrons are acting like waves when they don't look anything like waves. What's doing the waving?

The answer comes through quantum mechanics, and describing that answer involves interpreting some of the deep mathematics. The most common picture, called the Copenhagen interpretation, says that the wave that we associate with matter is a wave of probability representing all the possible places where a particle might be the next time we go looking for it. This range of probability is described by an equation that has the same mathematical bones as that of any other wave equation. In this picture, that's what's doing the waving: the possible places the particle could be.

So, as the electrons pass through the slits in de Broglie's experiment, they can't exactly decide where they want to be. Those waves of uncertainty crash into each other and interfere, merging and canceling each other out just like any other waves. Then, when an electron's wave hits the back screen, the particle finally has to decide where to land. Slowly, electron by electron, the wave pattern builds up.

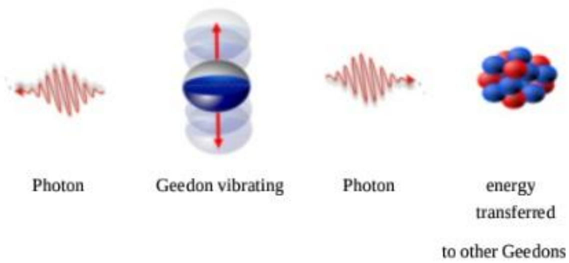
Just like light, sometimes matter acts like a particle, and sometimes, it acts like a wave. So, are light and matter made of waves or particles? The answer is both, sort of.

The Geedon particle has as all particles a wave behaviour. Since the evil eye is a human soul's envy towards another human soul, then it could be a Geedon-Geedon interaction through the wave behaviour. 1 Geedon of amplitude i + 1 Geedon of amplitude i = 2i.

The envious person has his Geedon soul particle that vibrates creating waves that propagates and transfers energy to the person envied soul particle.

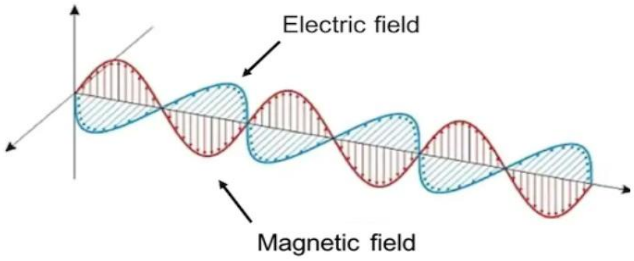
The wave energy transfer theory can help us understand this evil eye phenomenon.

In energy wave theory, a photon is generated by the vibration of particles, traveling perpendicular to the direction of vibration.




According to this theory particles are described as waves of energy, creating standing waves from in-waves and out-waves. The out-waves of these particles are longitudinal waves, but when a particle vibrates, it also creates a secondary, transverse wave. A faster vibration causes a photon with a shorter wavelength and greater energy and a slower vibration causes a photon with a longer wavelength and lower energy.  This results in the different types of waves seen in the electromagnetic spectrum (e.g. x-rays versus radio waves).

The photon is typically described as an electromagnetic (EM) wave, such as the image below. These are the two components of the wave (longitudinal and transverse). Longitudinal waves constantly flow from particles, causing an electric field even when a particle is not in motion. When a particle spins or vibrates, a transverse wave also forms and is recognized as the magnetic field.




EM wave of the photon

There are a handful of different ways that photons are both created by particles and absorbed by particles. But in all cases, it is a change of wave forms between longitudinal wave energy and transverse energy and vice versa. Unlike a particle which has wave centers that create standing, longitudinal waves measured as mass, the photon is a packet of traveling waves. Therefore, it has energy but not mass.

Waves may change forms, but they will be in full compliance with the conservation of energy:

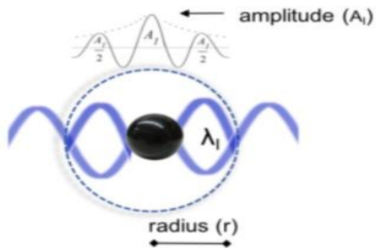
Longitudinal to Transverse – photon creation seen in emission from atoms (spontaneous and stimulated) and from particle annihilation
Transverse to Longitudinal – photon absorption seen in electrons changing orbitals in an atom, being ionized from an atom, or the creation of a particle and antiparticle in the pair production process.

Photon wavelengths and energies were calculated using the transverse equations. The equations for wavelength and energy were derived from the same energy wave equation as longitudinal energy for particles, which connects particles and photons and how they can transfer energy from one form to another (transverse to longitudinal and vice versa).

The Geedon is a standing, stationary wave, remaining in a constant position. An example might be an ocean wave that has a peak that is constantly five feet from the shoreline, never traveling to the shore. The wave moves up and down, peaking at a few feet above sea level and then dropping a few feet below sea level, always in the same place. A standing wave can form when two waves of equal amplitude and frequency are traveling in opposite directions.

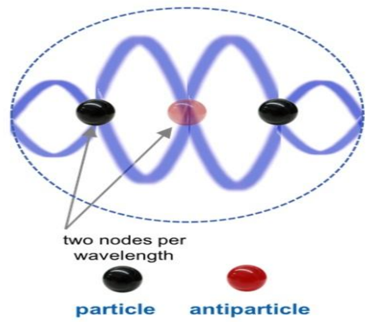
In energy wave theory, particles are standing, longitudinal waves of energy. Standing waves form from the combination of two waves traveling in opposite directions, as a result of wave reflection from a combination of one or more wave centers. From Laws #1 and #2 of the theory laws, energy travels as longitudinal waves in spacetime and travels in the direction of motion transferring energy from one granule to the next. From Law #3, when this energy reaches a wave center, it reflects energy backward. This creates a standing wave, which is stored energy.

The spherical, reflected out-wave creates a standing wave that is declining in amplitude as it moves further from the source of reflection. When the amplitude of the out-wave declines to an amplitude that is less than in-wave amplitude, standing waves transition back to traveling waves. This creates a spherical radius for the particle in which the volume it contains is standing wave energy. Beyond the radius, waves continue to travel as traveling waves and will be the cause of electrical forces. The energy reflected by a single wave center, with one standing wave wavelength as its perimeter, matches the properties of the neutrino.




**Single Wave Center –** Fundamental Particle
*(spherical longitudinal waves represented by sine wave icons)*

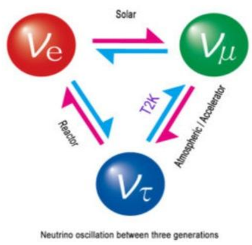
From Law #4 of the theory laws, wave centers may combine if they are in stable positions at nodes in a standing wave. This is the point of minimal amplitude in a standing wave. There are two nodes per wavelength in a standing wave. Each position is the opposite wave phase from the other, creating destructive waves. A combination of wave centers at these nodes and their phase on the waves determines particles and antiparticles. From Law #5 of the theory laws, particle energy and mass are calculated as the volume of wave energy. In the case of particles, it is standing wave (stored) energy that has increased in both amplitude and volume as a result of multiple wave centers reflecting waves. The energy significantly increases as more wave centers are added to the formation.



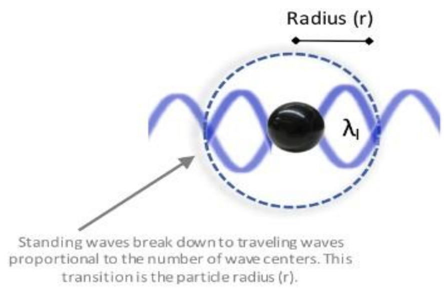

**Multiple Wave Centers –** Formation of New Particles

According to this theory the neutrino is possibly the wave center. The neutrino, also referred to as the electron neutrino, is the lightest and smallest of any elementary particle that has been discovered thus far. It was first proposed by Wolfgang Pauli in 1930 and then detected in experiments in 1956. It is an electrically neutral particle that is found in the weak force, nuclear reactions (such as the process in stars) and some particle collisions. The majority of neutrinos found on Earth originate from the Sun, referred to as solar neutrinos. In fact, billions of neutrinos pass through an area the size of a human fingernail each second. Neutrinos are incredibly small, and because they are neutral and not attracted to particles, they rarely hit another particle in an atom. They can pass through the entire Earth without any collision.

A strange property of the neutrino ($v_e$) is the ability to oscillate to become larger and increase mass like the Geedon that I studied in the volume_1 of my book. It can become a muon neutrino ($v_u$) or a tau neutrino ($v_t$). Both of these larger particles are still neutral and belong to the neutrino family. The three neutrinos are also a part of the lepton family of particles, which include the electrically charged electrons (electron, muon electron and tau electron).




In energy wave theory, the neutrino is the likely candidate for a single wave center, which makes it the fundamental particle that creates other particles. Other particles are made from a collection of wave centers (K) in a particle, similar to how atomic elements are formed from a collection of protons in a nucleus. A single wave center reflecting spherical, longitudinal waves to create standing waves would look like this:




**Neutrino** – Standing Waves of Energy from a Single Wave Center

I would propose the existence of a smaller fundamental elementary particle than the neutrino with relative mass which is the Geedon soul particle able to oscillate and increase its mass from negative mass to positive mass, when it becomes larger mass it interacts with other particles and can make a Geedon-Geedon interaction in evil eye case. The Geedon also can be the origin of all creation of other particles in the human body.

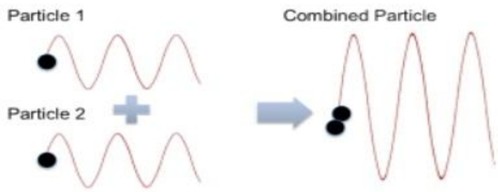
In the Energy Wave Theory Laws, there are five laws that describe the behavior of matter and forces in the universe. They are summarized as follows:

1. Waves travel throughout the aether at a defined wave speed and wavelength as wavelets to form a wavefront according to Huygen's principle;
2. Aether granules are the medium that respond to wave energy such each one transfers its momentum to the next granule, in the direction of motion;
3. Aether wave centers reflect wave energy, and the combination of in-waves and out-waves creates standing waves;
4. Aether wave centers move to minimize amplitude on the wave, preferring the node position within a standing wave;
5. Wave energy is proportional to amplitude, wavelength, wave speed and density of a defined volume.

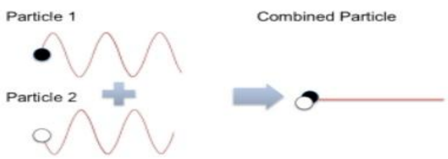
The amplitude of the Geedon-Geedon wave as I explained previously is 2i. In the case of surah «Nūn», the number 25 is the new amplitude obtained after that interaction that causes the evil eye wave, we can not know if it is 25 nanometer or picometer or what unit measurement could be. Let's explain the evil eye as a wave of amplitude 25 resulting from the first Geedon (amplitude i) vibration that transfers energy to another person Geedon particle (amplitude i) causing a third wave of Geedon-Geedon (amplitude 2i). The energy transferred can cause the decay of some other particles in the body of the second Geedon and the decay might be the body damage as the sickness. The number 25 could be interpreted as a new Geedon-Geedon wave amplitude resulting later.

Now we know that reading some surahs could protect from evil eye's wave and the explanation for that is that these surahs also create vibration and waves that interfere with the evil eye wave and that causes the destruction of the wave which scientists call destructive interference between waves.

Waves may combine, increasing or decreasing their amplitude. This is known as wave interference. The interference of two or more waves of equal frequency and phase, resulting in their mutual reinforcement and producing a single amplitude equal to the sum of the amplitudes of the individual waves.

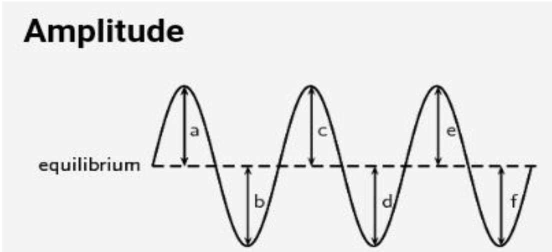



The interference of two or more waves of equal frequency and opposite phase, resulting in their cancellation where negative displacement of one coincides with positive displacement of the other.  This is a particle and its antiparticle.




The amplitude is the maximum disturbance of the medium from its equilibrium. In the case of a wave in a horizontal string, this value is identical with half of the vertical distance between the wave's crest and its trough.

The distance between the crest and the equilibrium position is equal to the distance between the trough and the equilibrium position. This distance is known as the amplitude of the wave, and is the characteristic height of the wave, above or below the equilibrium position. Normally the symbol A is used to represent the amplitude of a wave (in picture below amplitude is letters a,b,c,d,e,f) . The SI unit of amplitude is the metre (m).




In our surah «Nūn» the number 25 is the result of the equation $(2i)^? = 25$. The solution to this equation is $\mathrm{Log}_{2i}(25) = ?$

Input:

$$\log_{2i}(25)$$

Exact result:

$$\frac{\log(25)}{\log(2) + \frac{i\pi}{2}}$$

Decimal approximation:

0.756874192599799060173164513673240305881464521742543794736811607... −
1.71521321145848403586180790978773485407521155983781170536652105... $i$

More digits

Polar coordinates:

$r \approx 1.87478$ (radius), $\theta \approx -66.1895°$ (angle)

# Postface

Now that this third volume comes to an end, I would like the reader to pay attention that all I exposed in it is not the absolute truth about the meaning of the verses that I studied. All my mathematical analysis are scientific trials to uncover the mystery of this holy book "the words of God". I don't have the intention to convince you of my results as much as I have the intention to make you stop and think.

All muslims scholars' trials to explain the mysterious letters "Muqattaʿat " were not a convincing final understanding of their meaning or the reason for their existence in the opening of some surah. My mathematical and physics method is a new revolutionary way to look on them that conducted me to a new meaning never achieved before and opening the horizon to vast fields of studies like the link between the increase of using interest in a given society and their population decrease, the creation of a better mathematical model for sadaqah and zakat in a society.

The more we use any type of science to study the Quran , the more we get amazed by the richness and the endless capacity for this book to give solutions to all humans at any time.

I have no doubt that I might have made mistakes in my interpretations but I still remain comfortably confident from too much evidence that these letters are equations and functions that model many life realities and need more attention and deeper analysis in other books.

Many muslims expressed their feeling to wonder who is going to demystify these letters. For me, after all my research, I found out that it's not important who is going to reveal the meanings of these letters as much as how we are going to use those meanings and take advantage of them after we succeed to uncover them.

The meanings that I deduced from these letters is just the first stone in a mathematical and physical theory tower that is not built yet.

A mathematical theory is a mathematical model that is based on axioms. It can also simultaneously be a body of knowledge (e.g., based on known axioms and definitions), and so in this sense can refer to an area of mathematical research within the established framework.

Explanatory depth is one of the most significant theoretical virtues in mathematics. For example, set theory has the ability to systematize and explain number theory and geometry/analysis. Despite the widely logical necessity (and self-evidence) of arithmetic truths such as $1<3$, $2+2=4$, $6-1=5$, and so on, a theory that just postulates an infinite blizzard of such truths would be inadequate. Rather an adequate theory is one in which such truths are derived from explanatorily prior axioms, such as the Peano Axioms or set theoretic axioms, which lie at the foundation of ZFC axiomatic set theory. The singular accomplishment of axiomatic set theory is its ability to give a foundation for the derivation of the entirety of classical mathematics from a handful of axioms. The reason set theory is so prized is because of its explanatory depth. So a mathematical theory which just postulates an infinity of arithmetic truths without explanatory depth would not be a serious competitor to Peano arithmetic or Zermelo-Fraenkel set theory.

Example is Chaos theory that is a branch of mathematics focusing on the study of chaos — dynamical systems whose apparently random states of disorder and irregularities are actually governed by underlying patterns and deterministic laws that are highly sensitive to initial conditions. Chaos theory is an interdisciplinary theory stating that, within the apparent randomness of chaotic complex systems, there are underlying patterns, interconnectedness, constant feedback loops, repetition, self-similarity, fractals, and self-organization. The butterfly effect, an underlying principle of chaos, describes how a small change in one state of a deterministic nonlinear system can result in large differences in a later state (meaning that there is sensitive dependence on initial conditions). A metaphor for this behavior is that a butterfly flapping its wings in Texas can cause a hurricane in China.

Another example is Game theory is the study of mathematical models of strategic interaction among rational decision-makers It has applications in all fields of social science, as well as in logic, systems science and computer science. Originally, it addressed zero-sum games, in which each participant's gains or losses are exactly balanced by those of the other participants. In the 21st century, game theory applies to a wide range of behavioral relations, and is now an umbrella term for the science of logical decision making in humans, animals, and computers.

Modern game theory began with the idea of mixed-strategy equilibria in two-person zero-sum games and its proof by John von Neumann. Von Neumann's original proof used the Brouwer fixed-point theorem on continuous mappings into compact convex sets, which became a standard method in game theory and mathematical economics. His paper was followed by the 1944 book Theory of Games and Economic Behavior, co-written with Oskar Morgenstern, which considered cooperative games of several players. The second edition of this book provided an axiomatic theory of expected utility, which allowed mathematical statisticians and economists to treat decision-making under uncertainty.

Game theory was developed extensively in the 1950s by many scholars. It was explicitly applied to evolution in the 1970s, although similar developments go back at least as far as the 1930s. Game theory has been widely recognized as an important tool in many fields. As of 2014, with the Nobel Memorial Prize in Economic Sciences going to game theorist Jean Tirole, eleven game theorists have won the economics Nobel Prize. John Maynard Smith was awarded the Crafoord Prize for his application of evolutionary game theory.

My last remark is that I want you to notice the phonetic similarity of the pronunciation of the english word «equation» or the french word «équation» and the pronunciation of the arabic word «Muqattaʿat». They have 4 letters in common: q, u, a and t which is an absolute randomness but worth to note.

Finally I would suggest to muslim scholars to change the term «Muqattaʿat» to a new term that is «Muadalet» an arabic word meaning equations.

I am deeply convinced from all these equations we can develop a mathematical theory with a name «Geedon theory» that studies all the equations that model the Geedon human soul particle in its different states and stages of creation, interactions, developments through life, end of life , resurrection and spacetime after resurrection. this theory can open doors in our muslim and international societies for social, economic and many other science branches to spectacular revolution.

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